



(12)

**EUROPEAN PATENT APPLICATION**

published in accordance with Art. 158(3) EPC

(43) Date of publication:  
**13.03.2002 Bulletin 2002/11**

(51) Int Cl.7: **H04N 5/91**, H04N 5/92

(21) Application number: 01919880.3

**(86) International application number:**  
**PCT/JP01/03100**

(22) Date of filing: 10.04.2001

(87) International publication number:  
**WO 01/78385 (18.10.2001 Gazette 2001/42)**

(84) Designated Contracting States:  
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU  
 MC NL PT SE TR**  
 Designated Extension States:  
**AL LT LV MK RO SI**

(71) Applicant: **Sony Corporation**  
**Tokyo 141-0001 (JP)**

(72) Inventors:

- **TAKAGI, Satoshi**  
Shinagawa-ku, Tokyo 141-0001 (JP)
- **YANAGITA, Noboru**  
Shinagawa-ku, Tokyo 141-0001 (JP)
- **ABE, Keiko**  
Shinagawa-ku, Tokyo 141-0001 (JP)

**(74) Representative:**  
**Robinson, Nigel Alexander Julian et al**  
**D. Young & Co.,**  
**21 New Fetter Lane**  
**London EC4A 1DA (GB)**

(30) Priority: 10.04.2000 JP 2000113279  
10.04.2000 JP 2000113281  
10.04.2000 JP 2000145726  
10.04.2000 JP 2000145728  
10.04.2000 JP 2000145729  
10.04.2000 JP 2000145731  
10.04.2000 JP 2000145732  
10.04.2000 JP 2000145734  
10.04.2000 JP 2000145735

(54) **ASSET MANAGEMENT SYSTEM AND ASSET MANAGEMENT METHOD**

(57) In a programme preparation and distribution system (100), metadata indicating the variable information is generated from project to project, from medium to medium, from scene to scene or from frame to frame, to realize an asset management by controlling an archive system (40) depending on metadata. A database is constructed in which the archive system (40) manages metadata in a concentrated fashion along with the essence such as video and audio data. By a distributed programme editing system (10), the metadata inputted at the planning processing and at the casting processing is registered in the database managed in a concentrated

fashion by an archival manager (40A) of the archive system (40), at the same time as a tag specifying the registered metadata is issued. This tag is co-packed with the video and audio information obtained on acquisition by an acquisition system. In a production system (20), the timing to flow the staff roll is specified during the off-line processing in the production system (20). In accordance with the specified timing, the metadata is taken out from the database pointed by the tag co-packed with the video information or the audio information to generate the corresponding character automatically to effect complete editing processing.

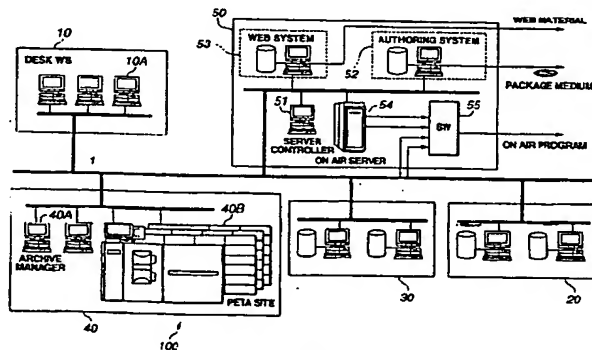


FIG. 1

## Description

### Technical Field

[0001] This invention relates to a system and a method for asset management for managing an essence. Also, this invention relates to a production system and a production method for creating a project from an essence. Also, this invention relates to an archiving system and an archiving method for archiving an essence. Also, this invention relates to a distribution system and a distribution method for allotting an essence. Also, this invention relates to an authoring system and an authoring method for creating a package medium from an essence. Also, this invention relates to a production system and a production method for creating a programme from an essence. Further, this invention relates to a production system for creating an essence and a control method thereof.

### Background Art

[0002] Recently, standardization on metadata is going on in SMPTE (Society of Motion Picture and Television Engineers) and the semantics for an essence specifying the contents or a wrapper meaning metadata and the essence combined together have been defined. Moreover, proposals have been made for the KLV (key length value) protocol or the UMID (unique material identifier) as a data structure of metadata and for a metadata dictionary as a collection of specified metadata per se, and the corresponding standardization is also proceeding.

[0003] Meanwhile, in a broadcasting station, shortage in programme software is posing a problem due to advent of multiple channels and multi-media, so that it is becoming crucial how the programme software is procured to improve the services as the cost is minimized and as the programme quality, that is the quality of the contents, is maintained. This is tantamount to how video/audio data can be processed efficiently in the sequence of the processing operations from acquisition and preparation until editing, transmission and archiving, such that medium asset management including a structure of an archiving system for re-utilization of past programmes is an incumbent task.

### Disclosure of the Invention

[0004] It is therefore an object of the present invention to provide an asset management system and an asset management method for managing the essence so that a sequence of operations from acquisition and formulation until editing, transmission and archiving will be managed efficiently.

[0005] It is another object of the present invention to provide a production system and a production method which can create a project from an essence efficiently.

[0006] It is another object of the present invention to provide an archiving system and an archiving method which can archive an essence efficiently.

[0007] It is another object of the present invention to provide a distribution system and a distribution method which can allot the essence efficiently.

[0008] It is another object of the present invention to provide an authoring system and an authoring method which can create a package medium efficiently from an essence.

[0009] It is another object of the present invention to provide an asset management system and an asset management method which can manage an essence efficiently.

[0010] It is a further object of the present invention to provide a production system for creating an essence efficiently and a control method thereof.

[0011] In its one aspect, the present invention provides an asset management system for managing an essence, including means for creating the essence and for generating metadata for explaining the essence when creating the essence, means for archiving the essence and the metadata correlatively with each other, and means for controlling an operation performed on the archived essence based on the metadata to realize asset management for the essence.

[0012] In another aspect, the present invention provides an asset management system for managing an essence, including means for generating the information for explaining the essence, means for recording and/or reproducing the essence and the information correlatively with each other, and means for managing and/or controlling a recording and/or reproducing operation of the essence based on the information to effect asset management for the essence.

[0013] In another aspect, the present invention provides an asset management system for managing an essence, including means generating the information specifying attributes of the essence, recording the essence and the information correlatively with each other on a recording medium to reproduce the essence from the recording medium and control means for controlling the recording and/or reproducing operations for the essence based on the information to effect asset management for the essence.

[0014] In another aspect, the present invention provides an asset management method for managing an essence, including creating the essence and for generating metadata for explaining the essence when creating the essence, correlating the essence and the metadata with each other, and controlling an operation performed on the archived essence based on the metadata to realize asset management for the essence.

[0015] In another aspect, the present invention provides an asset management method for managing an essence, including generating the information for explaining the essence and controlling the recording and/or reproducing operation of recording and/or reproducing

ing the essence and the information correlatively with each other based on the information to effect asset management for the essence.

[0016] In another aspect, the present invention provides an asset management method for managing an essence, including generating the information specifying attributes of the essence, recording the essence and the information correlatively with each other on a recording medium and controlling the recording and/or reproducing operations for the essence based on the information to effect asset management for the essence.

[0017] In its one aspect, the present invention provides a production system for creating a project from an essence; production for creating the essence and for generating metadata for accounting for the essence; and post-production of creating the project from the essence using metadata generated at the time of the production.

[0018] In another aspect, the present invention provides a production system for creating a project from an essence; production for creating the essence and for generating metadata for accounting for the essence; and post-production of creating the project from the essence; wherein an operation of the post-production is controlled based on metadata generated at the time of the production.

[0019] In another aspect, the present invention provides a production method for creating a project from an essence; creating the essence and generating metadata used for accounting for the essence; and creating the project from the essence using the metadata.

[0020] In another aspect, the present invention provides a production method for creating a project from an essence; creating the essence and generating metadata used for accounting for the essence; and controlling an operation of post-production based on the metadata to create the project from the essence.

[0021] In its one aspect, the present invention provides a production system for creating a project from an essence; comprising: pre-production for creating metadata used for accounting for the essence; production for performing an operation for creating the essence, using the metadata; and post-production for creating the project from the essence.

[0022] In another aspect, the present invention provides a production system for creating a project from an essence, comprising: a pre-production for creating metadata used for accounting for the essence; a production for creating the essence and for storing the essence and the metadata correlatively with each other on a recording medium; and a post-production for creating the project from the essence; wherein an operation in the production is performed using the metadata generated at the time of the pre-production.

[0023] In its one aspect, the present invention provides an archiving system for archiving an essence, comprising: production for creating the essence and for generating metadata used for accounting the essence;

archiving means for archiving the essence and the metadata correlatively with each other; and means for controlling the archiving means so that an operation for the essence will be performed using the metadata.

[0024] In another aspect, the present invention provides an archiving system for archiving an essence, comprising: production for creating the essence and for generating metadata used for accounting the essence; archiving means for archiving the essence and the metadata correlatively with each other; and controlling means for controlling the archiving means so that asset management for the essence archived by the archiving means will be performed based on the metadata.

[0025] In another aspect, the present invention provides a method for archiving an essence, comprising: creating the essence and generating metadata used for accounting the essence; performing an operation for the essence using the metadata; and archiving and essence and the metadata correlatively with each other.

[0026] In another aspect, the present invention provides a method for archiving an essence, comprising: creating the essence and generating metadata pertinent to the essence; and performing control based on the metadata so that an asset management for the essence archived will be performed to archive the essence and the metadata correlatively with each other.

[0027] In its one aspect, the present invention provides a distribution system for allotting an essence, comprising: a production for creating the essence and for generating metadata pertinent to the essence; a post-production for performing postproduction processing on the essence; and distribution means for allotting the essence using metadata generated at the time of the production.

[0028] In another aspect, the present invention provides a distribution system for allotting an essence, comprising: a production for creating the essence and for generating metadata pertinent to the essence; a post-production for performing post-production processing on the essence; and distribution means for allotting the essence; wherein an operation of the distribution means is controlled using the metadata used at the time of the production.

[0029] In another aspect, the present invention provides a distribution method for allotting an essence, comprising: creating the essence and generating metadata pertinent to the essence; performing post-production processing on the essence; and allotting the essence using metadata generated at the time of the production.

[0030] In another aspect, the present invention provides a distribution method for allotting an essence, comprising: creating the essence and generating metadata pertinent to the essence; performing post-production processing on the essence; and controlling an operation of distribution, using the data, to allot the essence.

[0031] In its one aspect, the present invention pro-

vides an authoring system for creating a package medium from an essence, comprising: a production for creating the essence and for generating metadata pertinent to the essence; a post-production for performing post-production on the essence; and authoring means for creating the package medium from an essence processed with post-production, using metadata generated at the time of the production.

**[0032]** In another aspect, the present invention provides an authoring method for creating a package medium from an essence, comprising: creating the essence and generating metadata pertinent to the essence; performing post-production on the essence; and creating the package medium from an essence processed with post-production using metadata.

**[0033]** In another aspect, the present invention provides an authoring method for creating a package medium from an essence, comprising: generating metadata pertinent to the essence; creating the essence; performing post-production on the essence; and creating the package medium from an essence processed with post-production using the metadata.

**[0034]** In its one aspect, the present invention provides an asset management system for managing an essence, comprising: a pre-production for generating metadata indicating the rights of the essence and; a production for creating the essence; asset management means for performing asset management processing on the essence; and means for controlling the asset management means so that a circulation operation of the essence will be performed based on the metadata.

**[0035]** In another aspect, the present invention provides an asset management system for managing an essence, comprising: means for creating the essence and for generating metadata specifying rights pertinent to the essence; asset management means for performing asset management processing on the essence; and means for controlling the asset management means, based on the metadata, so that a circulating operation of the essence will be performed based on the metadata.

**[0036]** In another aspect, the present invention provides an asset management method for managing an essence, comprising: generating metadata indicating the rights of the essence; creating the essence; and performing control based on the metadata so that a circulating operation of the essence will be performed to effect asset management processing on the essence.

**[0037]** In another aspect, the present invention provides an asset management method for managing an essence, comprising: creating the essence and for generating metadata specifying rights pertinent to the essence; and performing control based on the metadata so that a circulation operation of the essence will be performed to effect asset management processing for the essence.

**[0038]** In its one aspect, the present invention provides a production system for creating a programme

from an essence, comprising: a production for creating the essence and for generating UMID (unique material identifier) for discriminating the essence; a post-production for editing the essence for generating the programme; and means for controlling an operation in the post-production based on the UMID.

**[0039]** In another aspect, the present invention provides a production method for creating a programme from an essence, comprising: creating the essence and for generating UMID (unique material identifier) for discriminating the essence; and controlling an operation in the post-production based on the UMID to edit the essence to generate the programme.

**[0040]** In its one aspect, the present invention provides a production system for creating an essence, comprising: means for generating a plurality of metadata which are data pertinent to the essence and which are respectively identified by SMPTE (Society of Motion Picture and Television Engineers) labels; means for receiving the essence and the plural metadata and analyzing the SMPTE labels to extract pre-set metadata from the plural metadata; and means for controlling the processing relevant to the essence based on the extracted metadata.

**[0041]** In another aspect, the present invention provides a control method of a production system for creating an essence, comprising: generating a plurality of metadata which are data pertinent to the essence and which are respectively identified by SMPTE (Society of Motion Picture and Television Engineers) labels; receiving the essence and the plural metadata and analyzing the SMPTE labels to extract pre-set metadata from the plural metadata; and controlling the processing relevant to the essence based on the extracted metadata.

#### Brief Description of the Invention

**[0042]** Fig.1 shows a system structure showing the structure of a programme creation and distribution system embodying the present invention.

**[0043]** Fig.2 shows a system structure showing the structure of a production system in the programme creation and distribution system.

**[0044]** Figs.3A and 3B schematically show a data structure of the SDI format.

**[0045]** Figs.4A and 4B schematically show a data structure of the SDTI format.

**[0046]** Fig.5 schematically shows a data structure of the SDTI-CP format.

**[0047]** Fig.6 schematically shows a data structure of the KLV format.

**[0048]** Fig.7 schematically shows a data structure of UMID.

**[0049]** Fig.8 shows contents of a metadata dictionary which is a dictionary rule taking a universal label standardized in the SMPTE298M into keys.

**[0050]** Fig.9 shows the contents of a metadata dictionary.



[0051] Fig.10 shows the contents of a metadata dictionary.  
 [0052] Fig.11 shows the contents of a metadata dictionary.  
 [0053] Fig.12 shows the contents of a metadata dictionary.  
 [0054] Fig.13 shows the contents of a metadata dictionary.  
 [0055] Fig.14 shows the contents of a metadata dictionary.  
 [0056] Fig.15 shows the contents of a metadata dictionary.  
 [0057] Fig.16 shows the contents of a metadata dictionary.  
 [0058] Fig.17 shows the contents of a metadata dictionary.  
 [0059] Fig.18 shows the contents of a metadata dictionary.  
 [0060] Fig.19 shows the contents of a metadata dictionary.  
 [0061] Fig.20 shows the contents of a metadata dictionary.  
 [0062] Fig.21 shows the contents of a metadata dictionary.  
 [0063] Fig.22 shows the contents of a metadata dictionary.  
 [0064] Fig.23 shows the contents of a metadata dictionary.  
 [0065] Fig.24 shows the contents of a metadata dictionary.  
 [0066] Fig.25 shows the contents of a metadata dictionary.  
 [0067] Fig.26 shows the contents of a metadata dictionary.  
 [0068] Fig.27 shows the contents of a metadata dictionary.  
 [0069] Fig.28 shows the contents of a metadata dictionary.  
 [0070] Fig.29 shows the contents of a metadata dictionary.  
 [0071] Fig.30 shows the contents of a metadata dictionary.  
 [0072] Fig.31 shows the contents of a metadata dictionary.  
 [0073] Fig.32 shows the contents of a metadata dictionary.  
 [0074] Fig.33 shows the contents of a metadata dictionary.  
 [0075] Fig.34 shows the contents of a metadata dictionary.  
 [0076] Fig.35 shows the contents of a metadata dictionary.  
 [0077] Fig.36 shows the contents of a metadata dictionary.  
 [0078] Fig.37 shows the contents of a metadata dictionary.  
 [0079] Fig.38 schematically shows the structure of an asset management system along with the processing

sequence of the programme creation and distribution operation in the programme preparation and distribution system.

[0080] Fig.39 is a flowchart for illustrating the programme preparation distribution operation in the programme preparation and distribution system.

#### Best Mode for Carrying Out the Invention

[0081] Referring to the drawings, preferred embodiment of the present invention are explained in detail.

[0082] The present invention is applied to a programme preparation and distribution system 100 configured as shown for example in Fig.1.

[0083] This programme preparation and distribution system 100 includes a distributed, programme editing system 10, connected over a gigabit Ethernet 1, a production system 20, a news system 30, an archive system 40, a programme distribution system 50 and an acquisition system 60 for acquiring the video or audio to be furnished to the production system 20.

[0084] The programme preparation and distribution system 100 is a system for so-called pre-production processing prior to shooting in which a producer or a director and the staff members consult as to the programme distribution contents. The persons concerned in preparing a programme are adapted to consult on the programme distribution contents through plural workstations connected to the gigabit Ethernet 1.

[0085] The production system 20 is a system for shooting and programme preparation by image or speech collection and includes a recording management system 21 in which recording staff members input necessary items, a production management system 22, an ingest system 23 for storing the video or audio acquired by the acquisition system 60, a coding system 24 for coding processing of the speech or the audio, an editing/ processing system 25 for editing the speech or the audio, and a CG creation system 26 for displaying an image in superposition by computer graphics (CG) to create a weather map or letters, as shown for example in Fig.2.

[0086] The recording management system 21 is made up of plural workstations 21A, connected to the gigabit Ethernet 1, and is adapted to permit a news writer to enter an article through the workstations 21A. The production management system 22 is made up e.g., of a device controller 22A and an A/V server 22B, connected to the gigabit Ethernet 1. The ingest system 23 is made up of a reproducing device 23A for reproducing the video or audio recorded on a video tape, a telecine device 23B for converting an image imaged on a film into video signals, and a plurality of ingest clients 23C connected to the gigabit Ethernet 1, and is configured for storing the video or the audio acquired by the acquisition system 60 through the reproducing device 23A and the telecine device 23B on the ingest clients 23C. The coding system 24 is made up of a coding controller 24A, an

MPEG encoder 24B and an MPEG decoder 24C, connected to the gigabit Ethernet 1. The editing/processing system 25 is made up of an off-line editing device 25A, an on-line editing device 25B, a video processing device 25C and an audio processing device 25D.

[0087] The news system 30 is a system for collectively managing the news information and manages on-air items and materials, that is manages which material is undergoing which stage of processing.

[0088] The archive system 40 is a system preserving video and audio data, and includes an archive manager 40A and a petasite 40B, connected to the gigabit Ethernet 1. In the petasite 40B are preserved essence and metadata.

[0089] The programme distribution system 50 includes a server controller 51, an authoring system 52, a web system 53 and an on-air server 54, connected to the gigabit Ethernet 1. The programme distribution system 50 also includes a routing switch 55 for selecting the on-air programme.

[0090] The acquisition system 60 is made up of a video camera 61, a relaying car 62 etc.

[0091] This programme preparation and distribution system 100 is a picture processing system in which a broadcasting station, a video producing firm etc has the functions of recording the video or the audio, referred to below as material, editing and processing these materials to prepare a picture for distribution, and of preserving the pictures. In the picture processing steps, such as recording, editing or preserving the materials, the supplementary information for discriminating the materials in detail is inputted to the recording medium or a dedicated recording server in the picture processing steps, such as recording, editing or preserving the materials.

[0092] As the supplementary information, metadata is used. The metadata denotes data for stating the necessary information for discriminating the materials obtained on recording, such as recording time, recording ID, recording title, or the name of a photographer or a reporter.

[0093] In the present programme preparation and distribution system 100, the transmission format used in transmitting video or audio data or the metadata is the SDI (Serial Digital Interface) as a digital transmission format standardized by SMPTE. Fig.3A shows the structure of the entire SDI format data.

[0094] The SDI format includes a 4-dot EAV (End of Video) area, indicating the end of synchronization, a 268-dot AND (ancillary) area, a 4-dot SAV (start of video) area, indicating start synchronization, and a 140-dot active video area, and is made up of 525 lines. The numerals entered in parentheses indicate the values defined in accordance with the PAL (phase alternation line) system.

[0095] The active video area includes a 9-line vertical blanking portion (VBK<sub>1</sub>), a 10-line optional blanking portion (OBK<sub>1</sub>), a 244-line active video portion (ACV<sub>1</sub>), a

9-line vertical blanking portion (VBK<sub>2</sub>), a 10-line optional blanking portion (OBK<sub>2</sub>) and a 243-line active video area (ACV<sub>2</sub>).

[0096] The SDI is a format for transmitting the non-compression digital data, such as D1 or D2 format, in which audio data is stored in an ancillary area and video data such as D1 or D2 is stored in the active video area. In the SDI format, metadata are transmitted by being inserted into the ancillary area.

[0097] Fig.3B shows one line of the SDI format. In transmission, data with 10 bits per line is transmitted on parallel/serial conversion and transmission path encoding.

[0098] As the transmission format for transmitting video, audio and metadata in the picture processing system, there are an SDTI (Serial Digital Transfer Interface) format for transmitting the data compressed by the MPEG system or the DV system, or the SDTI-CP (Serial Digital Transfer Interface - Content Package) format, which is further limited from SDTI format, may be used in addition to the above-described SDI format.

[0099] Fig.4A shows a data structure of the SDTI format. Similarly to the SDI format, the SDTI format has a 4-dot EAV (end of video) area, indicating the end synchronization, a 268-dot ANC (ancillary) area and a 4-dot SAV (Start of Video) area, indicating the start synchronization. However, in the SDI format, the active video area, constituted by 525 lines in the SDI format, is defined to be the payload area. It is noted that numerals in parentheses indicate values defined by the PAL (phase alternation line) system.

[0100] In the SDTI format, the payload area has blank data portions (BDT<sub>1</sub>, BDT<sub>2</sub>) and data portions (DT<sub>1</sub>, DT<sub>2</sub>). However, the number of lines in each data portion is not defined.

[0101] Fig.4B shows a line of the SDTI format. When data is transmitted by the SDTI format, data of 10 bit width per line is transmitted on parallel/serial conversion and transmission path encoding.

[0102] In the SDTI format, 53-word SDTI header data, in which to insert the transmission source address, destination address and the line number. CRC etc, is contained in the ancillary area. In the SDTI format, the metadata is inserted into an area of the ancillary area excluding the SDTI header data.

[0103] Fig.5 shows a data area of the SDTI-CP format data structure. The packet structure in the SDTI-CP is further limitation of the SDTI format and modifies the payload structure to facilitate insertion of variable data.

[0104] The data transmitted by the SDTI-CP format includes not only MPEG (Moving Picture Experts Group) 2 video elementary stream, but a variety of data, such as supplementary data, including audio data or metadata, which may be transmitted collectively with the MPEG2 Video Elementary Stream.

[0105] The data inserted into the payload is partitioned by "items", while the variable data is included in each item. Specifically, there are four sorts of items,

namely a System Item, a Picture Item, an Audio Item and an Auxiliary Item.

**[0106]** The System Item has areas such as System Item Bitmap, Content Package rate, SMPTE Universal Label, Package Metadata Set, Picture Metadata Set, Audio Metadata Set and Auxiliary Metadata Set.

**[0107]** In the SDTI-CP format, metadata is inserted into Package Metadata Set, Picture Metadata Set, Audio Metadata Set and Auxiliary Metadata Set for transmission.

**[0108]** The metadata is the inherent data added and inputted to discriminate materials such as video and audio data, and is transmitted in accordance with the KLV (Key Length Value) consistent with the SMPTE standard and also in accordance with the UMID (Unique Material Identifier) data format.

**[0109]** The KLV format is the data transmitting format having three areas, namely a 16-byte Universal Label Data Key stating the Universal Label Data, a Value Length indicating the data length of metadata stored in the Value area and a Value in which to store the actual metadata corresponding to the SMPTE Dictionary. Fig. 6 shows the KLV format.

**[0110]** The Universal Label Data Key is a data area for applying unique labelling to stored metadata. The Universal Label Data Key is further divided into a UL (Universal Label) Header area, including a 1-byte Object ID, and a 1-byte UL (Universal Label) Size, a UL (Universal Label) Designators area, including a UL (Universal Label) Code, SMPTB Design, Registry Design, Data Design and Reference Version, each being 1-byte, and a 9-byte Data Element Tag area.

**[0111]** The UMID is an Identifier uniquely determined for discriminating video data, audio (speech) data and other material data. Fig. 7 shows a UMID data structure.

**[0112]** The UMID is made up of a Basic UMID as ID for discriminating material data made up of a sequence of pictures, speech and metadata, referred to below as contents, and Extended UMID as a signature for discriminating the respective contents in the material data.

**[0113]** The Basic UMID has a 32-byte data area, which is made up of a 12-byte Universal Label area, a 1-byte Length Value area, a 3-byte Instance Number area and a 16-byte material Number area.

**[0114]** The Universal Label area has codes for discriminating digital data stored therein, as standardized in detail in SMPTE-298M. The Length Value area denotes the length of UMID. Since the Basic UMID differs in code length from Extended UMID, the Basic UMID is denoted by 13h and the Extended UMID is denoted by 33h. The Instance Number area indicates whether or not the material data has been processed with overwrite processing or editing processing. The Material Number area has three areas, in which are stored codes for distinguishing material data.

**[0115]** The Time Snap, indicated by 4 bytes, denotes the number of snap clock samples per day. That is, it denotes the time of preparation of the material data in

terms of clocks as unit. The 8-byte Rnd (random number) is a random number which prevents duplex numbers from being affixed in case incorrect time is set or in case the network address of an equipment defined by IEEE (The Institute of Electrical and Electronics Engineers) is changed.

**[0116]** On the other hand, the Extended UMID is made up of 8-byte Time/Date Code for discriminating the time and the date of preparation of a material in question, 12-byte Spatial Co-ordinates, defining the correction concerning the time of preparation of the material (time difference information) or the position information represented by the latitude, longitude or altitude, 4-byte Alphanumeric Code (Country) defining the name of a nation 4 by abbreviated alphabetical letters or symbols, 4-byte Alphanumeric Code (Organization) defining a name of an organization, and 4-byte Alphanumeric Code (User) defining the name of a user who prepared a material.

**[0117]** It is noted that metadata indicating the picture size, generation number etc is not contained in the above-described Basic UMID or Extended UMID. In particular, the Material Number is not indicative of the other information concerning the status or the picture of a material. The metadata indicating the picture size or the generation number is transmitted based on the KLV format.

**[0118]** It is noted that, in a metadata dictionary, which is the dictionary provisions which have taken the universal label standardized in the SMPTE 298M into keys, the metadata having the following data elements are prescribed:

**[0119]** That is, there are prescribed, as names of data elements corresponding to the SMPTE label, class 11D and locators (IDENTIFIERS & LOCATORS), globally unique ID (Globally Unique Identifiers), UMID video (UMID Video), UMID audio (UMID Audio), UMID data (UMID Data), UMID system (UMID System), International Broadcasting Organization ID (International Broadcasting Organization Identifiers), organization division (Organization Identifiers), Programme ID (Programme Identifiers), UPID (UPID), UPN (UPN), media ID (Physical Media Identifier), tape ID (Tape Identifier), EBU ID NO (IBTN), ISO ID (ISO Identifiers), ISO audio visual NO (ISAN), ISO book NO (ISBN), ISO serial NO (ISSN), ISO musical work code (ISWC), ISO printed music NO (ISMN), ISO commercial ID (ISCI), ISO recording code (ISRC), ISO report NO (ISRN), ISO term synopsis (ISBD), ISO textual work code (ISTC), digital object ID (DOI), compound ID (Compound IDs), serial item and contribution ID (SICI), serial item and contribution ID (SICI), book item and component ID (SICI), audio visual item and component ID (AICI), distributor ID (PII), object ID (Object Identifiers) and Internet global unique ID (GUID), as shown with #1 to #33 in Fig. 8.

**[0120]** There are also prescribed, as names of data elements corresponding to the SMPTE label (GUID and SMPTE label identifiers), meta data object ID (MobID),

details of the object ID (Definition object identifiers), details of the object ID (DefinitionObject identifiers), container version indication (GenerationAUId), CNIR (CNRI Handles), device ID (Device Identifiers), device designation (Device Designation), device preparation (Device Make), device model (Device Model), device serial NO (Device Serial Number), globally unique locators (Globally Unique Locators), unique resource ID (UR locators (and "Identifiers"), unique resource locators (URL), unicolor URL string (URLString), continuation URL(PURL), resource name (URN), media locator (Media locators), local ID (Local Identifiers), administrative identifiers (Administrative identifiers), transmitting ID (Transmission Identifiers) archive identifier (Archive Identifier), item ID (Item ID), accounting reference NO (Accounting Reference), Transmission Billing (Traffic), physical media ID (Physical Media Identifiers), film code (Film codes), reel NO (Reel/Roll number), tape ID (tape number), object ID (Object Identifiers) and locally unique ID (LUID), as shown with #34 to #66 in Fig.9.

**[0121]** There are also prescribed, as data element names corresponding to the SMPTE labels, slot ID (SlotID), object text ID (Object text identifiers), name of group (Mob\_name), name of slot (SlotName), object name (DefinitionObject\_Name), local locators (Local Locators), local media locator (Local Media locators), local file path (Local File Path), film locator (Film Locators), edge code (Edge Code), frame code (Frame Code), key code (Key Code), Ink No (Ink number), segment start code (EdgeCode\_Start), proxy locator (Proxy locators); proxy key text (Key text), proxy key frame (Key Frame), proxy key sound (Key Sound), key data (Key data or programme), free writing (Free-form, human readable locator), free writing name (TextLocator\_Name), title (Titles), title kind (Title kind), main title (Main Title), subtitle (Secondary title), series NO (Series number), episode NO (Episode Number), scene number (Scene Number), take NO (Take Number), owner (Unique IPR Identifiers), owner by CIS-AC (IPI (SUISA/CISAC)), natural person/legal entity (Natural Person/legal entity) and ID by AGICOA (AGICOA/MPAA), as shown with #67 to #99 in Fig.10.

**[0122]** There are also prescribed, as names of data elements associated with the SMPTE label, AGICOLA ID (AGICOLA/MPAA Identifier), class 2 administration (ADMINISTRATION), supplier (Supplier), source organization (Source Organization), contract NO (Supply contract number), original producer name (Original Producer Name), product (Product), the total number of episodes in a series (Total number of Episodes in a Series), rights (Rights), copyright (Copyright), copyright status (Copyright Status), copyright owner (Copyright Owner), intellectual rights (Intellectual Rights), intellectual rights type (IP type), details of IP rights (IP Rights), legal personalities (Legal personalities), owner (Rights Owner), rights management authority (Rights Management Authority), interested parties (Interested Parties), ancillary information to property rights (IP Rights options), maxi-

imum number of usages (Maximum Number of Usages), licence options (Licence options), financial information (Financial information), currency (Currency), payments and costing (Payments and costing), royalty information (Royalty Financial Information), profit information (Income), royalty financial information (Royalty Financial Information), access permission (Permitted Access), access level (Restrictions on Use), security (Security) and degree of technical access (System Access), as shown with #100 to #132 in Fig.11.

**[0123]** There are also prescribed, as names of data elements associated with the SMPTE label, a user name (Username), a user name (User Name), a password (Password), a password (Password), a motion picture film (Film), a scramble key kind (Scramble key kind), a scramble key value (Scramble key value), a publication outlet (Publication Outlet), a broadcast outlet information (Broadcast), broadcaster (Broadcaster), a name (Name), a channel (Channel), a transmission medium (Transmission Medium), a broadcast region (Broadcast Region), broadcast and repeat statistics (Broadcast and Repeat Statistics), a first broadcast flag (First Broadcast Flag), a repeat number (Repeat Number), a current repeat number (Current repeat number), a previous repeat number (Previous repeat number), a rating (Rating), an audience rating (Audience rating), an audience reach (Audience reach), other ratings (Other ratings), participating parties (Participating parties), representative persons (Persons (Groups and Individuals)), nature of person (Group of individuals) (Nature of Person (Group of individuals)), support and administration (Support and Administration), support and administration staffs (Support/Administration Status), organizations and public bodies (Organizations or Public Bodies) and kinds of organizations and public bodies (Kind of Organizations or Public Bodies), as shown with #133 to #165 in Fig.12.

**[0124]** There are also prescribed, as names of data elements associated with the SMPTE label, a production (Production), a film labo (Contribution Status), support and administration (Support and Administration), a support and administration staff (Support and Administration Status), job function information (Job Function Information), a job function (Job Function), a role (Role/Identity), contact information (Contact Information), contact kind (Contact kind), contact department (Contact Department), representative (Person or Organization Details), person name (Person name), a family name (Family name), a first given name (First Given name), a second given name (Second Given name), a third given name (Third Given name), a group name (Group name), a main name (Main name), a supplementary name (Supplementary name), an organization name (Organization name), a main name (Main name), a supplementary organization name (Supplementary organization name), a class 3 interpreter (INTERPRETATIVE), fundamental information (Fundamental), countries (Countries), an ISO 3166 country code (ISO

3166 Country Code System), an ISO 3166 country code (ISO 3166 Country Code System), an ISO language code (ISO language code), an ISO language code (ISO language code), interpretative parameters (Data Interpretations), OS characteristics (Operating system interpretations), a fundamental 4 definitions (Fundamental Dimensions) and length (Length), as shown with #166 to #198 in Fig.13.

[0125] There are also prescribed, as names of data elements associated with the SMPTE label, a length system (Length System), a length system (Length System), a length unit (Length Unit), a length unit (Length Unit), a time system (Time System), a time system (Time System), a time unit (Time Unit), a time unit (Time Unit), a mass (Mass), an energy (Energy), human assigned (Descriptive-Human Assigned), categorization (Categorization), content classification (Content Classification), a type (Type), a genre (Genre), target audience (Target Audience), cataloguing (Cataloguing and Indexing), catalogue history (Catalogue History), current status of metadata (Status of Data Set), current status of metadata (Status of Data Set), ID in use (Cataloguing, Indexing or Thesaurus system used), a theme (Theme), a genre (Genre), a sub-code (Subject Code), a keyword (Keywords), a key frame (Key Frame), key sounds (Key Sounds), key data (Key data), textural description (Textural Description), an abstract (Abstract), a purpose (Purpose) and description (Description), as shown with #199 to #231 in Fig.14.

[0126] There are also prescribed, as names of data elements associated with the SMPTE label, a color descriptor (Color descriptor), a format descriptor (Format descriptor), a stratum (Stratpm), a stratum kind (Stratum kind), supplementary information (Supplementary Information), assessments (Assessments), awards (Awards), individual (Individual), a programme (Programme), qualitative values (Qualitative Values), asset values (Asset Values), content value (Content Value), cultural quality (Cultural Quality), aesthetic value (Aesthetic Value), historic value (Historic Value), technical value (Technical Value), other values (Other Values), descriptors (Descriptors (Machine Assigned or Computed)), categorization (Categorization), content classification (Content Classification), cataloguing (Cataloguing and Indexing), catalogue history (Catalogue History), current status of metadata (Status of Data Set), cataloguing (Cataloguing and Indexing), a keyword (Keywords), a key frame (Key Frame), key sounds (Key Sounds), key data (Key data), textural description (Textural Description), a stratum (Stratum), a stratum kind (Stratum kind), a class 4 parameter (PARAMETRIC) and video encoding parameters (Video Essence Encoding Characteristics), as shown with #232 to #264 in Fig. 15.

[0127] There are also prescribed, as names of data elements associated with the SMPTE label, video fundamental characteristics (Video Fundamental Characteristics), a video source device (Video Source Device),

OE conversion system (Fundamental opto-electronic formulation), gamma characteristics (gamma information), gamma equation (Gamma Equation), gamma (Gamma), luminance equation (Luma Equation), colorimetry code (Colorimetry Code), scanning information (Fundamental sequencing and scanning), a component sequence (Signal Form Code), color frame index (Color Field Code), a vertical rate (Vertical Rate), a frame rate (Frame Rate), image dimensions (Image dimensions), number of lines (Image lines), a total number of lines per frame (Total Lines per frame), active lines/frame (Active Lines per frame), leading lines (Leading Lines), trailing lines (Trailing Lines), horizontal and vertical dimensions (Horizontal and Vertical dimensions), an aspect ratio (Display Aspect Ratio), an image aspect ratio (Image Aspect Ratio), a capture aspect ratio. (Capture aspect ratio), a stored height (Stored Height), a stored width (StoredWidth), a sampled height (Sampled Height), a sampled width (Sampled Width), a sampled X offset (Sampled X Offset), a sampled Y offset (Sampled Y Offset), a display height (Display Height), a display width (Display Width), and a display X offset (Display X Offset), as shown with #265 to #297 in Fig.16.

[0128] There are also prescribed, as names of data elements associated with the SMPTE label, a display Y offset (Display Y Offset), video coding characteristics (Video Coding Characteristics), an analogue video system (Analogue Video System), a luminance sampling rate (Luminance Sample Rate), active samples per line (Active Samples per Line), total samples per line (Total Samples per Line), bits per pixel (Bits per Pixel), sampling information (Sampling Information), a sampling hierarchy code (Sampling Hierarchy Code), horizontal sampling ratio (Horizontal Subsampling), color siting (ColorSiting), a rounding method code (Rounding Method Code), a filtering code (Filtering Code), a sampling structure (Sampling Structure), sampling structure code (Sampling Structure Code), a frame layout (FrameLayout), line field information (VideoLineMap), alpha transparency (AlphaTransparency), a component width (ComponentWidth), black reference level (BlackReferencelevel), white reference level (WhiteReferencelevel), color dynamic range (ColorRange), a pixel layout (PixelLayout), a color palette (Palette), pallet layout (PalletLayout), number of same data in the horizontal direction of original signals (Is Uniform), number of stored neighboring bytes (Is Contiguous), JPEG table (JPEG Table ID), TIFF parameters (TIFFDescriptor\_Summary), MPEG coding characteristics (MPEG coding characteristics), MPEG-2 coding characteristics (MPEG-2 coding characteristics), field frame type code (Field Frame Type Code) and film parameters (Film parameters), as shown with #298 to #330 in Fig. 17.

[0129] There are also prescribed, as names of data elements associated with the SMPTE label, a film to video parameters (Film to Video parameters), field dominance (Field Dominance), frame phase sequence

(Framephase sequence), film pulldown characteristics (Film Pulldown characteristics), a pulldown sequence (pulldown sequence), a pulldown phase (Pull down phase), a pulldown kind (Pulldown kind), a pulldown direction (Pulldown Direction), a pulldown phase (Phase Frame), a film frame rate (Film Frame Rate), 24.00 fps (Capture Film Frame Rate), 23.976 fps (Transfer Film Frame rate), special frame rate (FilmDescriptor\_Framerate), film characteristics (Film characteristics), film aperture characteristics (Film capture aperture), film color process (Film Color Process), edge code format (Code-Format), header text (Header), video and film test parameters (Video and Film test parameters), video test parameters (Video test parameters), Test parameters (Test parameters), a test result (real number) (Test Result (real)), test result (integer) (Test Result (integer)), storage alignment (Video digital storage alignment), buffer size on frame storage (Image Alignment Factor), client fill start (Client Fill Start), client fill end (Client Fill End), padding bits (Padding Bits) and audio essence encoding characteristics (Audio Essence Encoding Characteristics), as shown with #331 to #363 in Fig.18.

**[0130]** There are also prescribed, as names of data elements associated with the SMPTE label, audio fundamental characteristics (Audio Fundamental Characteristics), audio source device (Audio Source Device), fundamental audio formulation (Fundamental audio formulation), audio channel division (Electro-spatial formulation), audio filtering characteristics (Filtering applied), audio reference level (Audio reference level), number of audio channels in mix (Number of audio channels in mix), number of mono channels (Mono channels), number of stereo channels (Stereo channels), number of tracks (Physical Track number), a film sound source (Film sound source), optical track (Optical track), magnetic track (Magnetic track), analogue audio coding characteristics (Analogue Audio Coding Characteristics), an analogue system (Analogue system), audio sampling characteristics (Digital Audio Sampling Characteristics), sample rate (Sample rate), clock frequency (Reference clock frequency), bits per sample (Bits per sample), a rounding law (Rounding law), dither (Dither), audio coding characteristics (Digital Audio Coding Characteristics), a coding law (Coding law), number of layers (Layer number), an average bit rate (Average Bit rate), a fixed bitrate (Fixed bitrate), audio test parameters (Audio test parameters), SNR (Signal to noise ratio), weighting (Weighting), audio summary information (Audio summary information), AIFC format summary (AIFCDescriptor\_Summary), WAVE format summary (WAVEDescriptor\_Summary) and an encoding method (Data. Essence Encoding Characteristics), as shown with #364 to #396 in Fig.19.

**[0131]** There are also prescribed, as names of data elements associated with the SMPTE label, fundamental characteristics (Data Essence Fundamental Characteristics), information of original source signals (Analogue Data Essence Coding Characteristics), analogue

data coding (Analogue Data Coding), digital coding characteristics (Digital Data Coding Characteristics), original recording data (Data test parameters), metadata encoding characteristics (Metadata Encoding Characteristics), metadata fundamental characteristics (metadata fundamental characteristics), time code characteristics (Timecode Characteristics), time code kind ((Timecode kind), time code kind ((Timecode kind), a drop frame (Drop), LTC/VITC (Source Type), time code time base (Timecode Timebase), frames/sec (FPS), user bit ON/OFF (Timecode User bit flag), start address (Start), time code sampling rate (TimecodeStream\_Sample Rate), time code data itself (Source), time code with sync signal (IncludeSync), analogue metadata information (Analogue Metadata Coding Characteristics), an analogue metadata carrier (Analogue Metadata Carrier), digital metadata information (Digital Metadata Coding Characteristics), digital metadata carrier (Digital Metadata Carrier), metadata test characteristics (Metadata test parameters), system and control Encoding characteristics (System & Control Encoding Characteristics), system and control fundamental characteristics (System & Control Fundamental Characteristics), original analogue signal information (Analogue System & Control Coding Characteristics), analogue system (Analogue System & Control Coding), original digital signal information (Digital System Coding Characteristics), digital metadata information (Digital System Metadata Sampling Characteristics), original signal metadata characteristics. (System. Metadata test parameters) and general encoding characteristics (general encoding characteristics), as shown with #397 to #429 in Fig.20.

**[0132]** There are also prescribed, as names of data elements associated with the SMPTE label, general essence encoding characteristics (General Essence Encoding Characteristics), a sampling rate (Samplerate), a length (Length), container encoding characteristics (Container encoding characteristics), byte sequence (ByteOrder), storage medium parameters (Storage Medium parameters), a tape cartridge format (Tape cartridge format), video tape gauge (Videotape gauge and format), tape size (FormFactor), a signal form (VideoSignal), a tape format (TapeFormat), recording length (Length), tape manufacturer (TapeDescriptor\_ManufacturerID), a tape model (Model), disc recorder parameters (Disc recorder parameters), disc kind (Disc kind and format), film medium parameters (Film Medium Parameters), film stock manufacturers (Film stock manufacturers), a film stock. type (Film Stock type), perforation information (PerforationPerFrame), a film kind (FilmKind), a film format (FilmFormat), a film aspect ratio (FilmAspectRatio), manufacturer (Manufacturer), a model (Model), a film gauge (Film gauge and format), (Object Characteristics (Placeholder)), device characteristics (Device Characteristics), camera characteristics (Camera Characteristics), optical characteristics (Optical Characteristics), focal length (Focal length), a



CCD size (Sensor Size), and a lens aperture (Lens Aperture), as shown with #430 to #462 in Fig.21.

[0133] There are also prescribed, as names of data elements associated with the SMPTE label, a CCD size of original signals (Sensor Type Code), a field of view (Field of View), special lens (Anamorphic lens characteristics), optical test parameters (Optical Test Parameters), sensor characteristics (Optical sensor characteristics), flare characteristics (Flare), microphone characteristics (microphone Characteristics), a sensor type (Sensor type), polar characteristics (Polar characteristics), image characteristics (Image Characteristics), an image category (Image Category), class 5 creation process (PROCESS), process status flag (Process Indicators), fundamental information (Fundamental), shot, clip, segment indication (Integration Indication), a quality flag (Quality Flag), physical instance category (Physical Instance Category), capture (Capture), digital or analogue origination (Digital or analogue origination), microphone position (Microphone Placement techniques), dubbing information (Manipulation), number of times of change (Simple Flagging), copy numbers (Copy Number), a clone number (Clone Number), work in progress flag (Work in Progress Flag), analogue digital mixing (Digital or analogue mix), payload compression hysteresis (Downstream Processing History), a video compression history (Video Compression History), a video compression algorithm (Video Compression Algorithm), compression hysteresis data set (MPEG2 dynamic coding historical dataset), a noise reduction algorithm (Video Noise Reduction Algorithm), and compression (Compression), as shown with #463 to #495 in Fig. 22.

[0134] There are also prescribed, as names of data elements associated with the SMPTE label, audio compression history (Audio Compression History), audio compression algorithm (Audio Compression Algorithm), audio compression history data (MPEG-2 Audio Dynamic coding history), a noise reduction algorithm (Audio Noise-Reduction Algorithm), a data compression history (Data Compression History), metadata compression history (Metadata Compression History), MPEG process (MPEG processing), splicing metadata (Splicing Metadata), correction of the essence (Enhancement of Modification), correction of video signals (Video processing), description of correction (Enhancement of Modification Description), device designation (Video processor settings (Device-specific)), device kind (Device kind), device parameters (Device parameters), device parameter setting (Device parameter setting), audio processing (Audio processing), description of correction (Enhancement of Modification Description), audio processor settings (Device-specific), a device kind (Device kind), device parameters (Device parameters), device parameter setting (Device parameter setting), correction of data (Data processing), description of correction (Enhancement of Modification Description), data processor settings (Data processor set-

tings (Device-specific)), a device kind (Device kind), device parameters (Device parameters), device parameter setting (Device parameter setting), editing information (Editing Information), editing version information (Editing version information), file format version (Version), editing details (Editing decisions), a file format version (Version), editing details (Editing decisions), contents of change (RelativeScope) and change slot (RelativeSlot), as shown with #495 to #528 in Fig.23.

[0135] There are also prescribed, as names of data elements associated with the SMPTE label, an original signal group (SourceMobSlotID), fade information default (DefFadeType), editing matte information (Editing matte information), editing event information (Editing event information), comment (Event\_Comment), event ON/OFF information (ActiveState), edit effect information (Edit effect information), audio fade-in type (FadeInType), audio fade-out type (FadeOutType), control point (ControlPoint\_Value), a constant value (ConstantValue\_Value), hint 'Edithint', transient information (IsTime-Warp), category information (Category), input segment number (NumberInputs), bypass information (Bypass), editing web information (Editing web information), start (BeginAnchor), end (Endanchor), editing user notes (Editing user notes), tag information (TaggedValue\_Name), value information (TaggedValue\_Value), class 6 inter-data information (RELATIONAL), relation (Relationship), relation kind (Relatives), correlative values (Essence to Essence), a source material (source material), UMID (Source material UMID), a source material (source material), most recent edit text (Most Recent Edit text), and most recent edit UMID (Most recent edit UMID), as shown with #529 to #561 in Fig.24.

[0136] There are also prescribed, as names of data elements associated with the SMPTE label, metadata to essence (Metadata to Essence), metadata to metadata (Metadata to Metadata), object to object (Object to Object), metadata to object (Metadata to Object), relation to production materials (Related production material), programme support material (Programme support material), relation to advertising material (Programme advertising material), relation to CM (programme commercial material), numerical sequence (Numerical sequence), numerical sequence in sequence (Numerical sequence in sequence), offset information (Relative position in sequence (value)), preview, next information (Relative position in sequence (value)), preview, next information (Relative position in sequence (descriptive)), structural relationship (Relationship structures), relationship in contents (Containing relations), contents themselves (Contains one), a still frame (Still Frame), a hot spot matte (Hot Spot Matte), annotation (Annotation), translation (Rendering), pull-in (InputSegment), Selection (Selected), effect on transition (Operation Group), web addresses (Manufacturing Info), content group (Content), content description (Dictionary), essence description (Essence Description), segment description (Segment), contains set (contains set), param-



eters (Parameters), alternate segments (Alternates), group (Mobs), and essence data (Essence Data), as shown with #562 to #594 in Fig.25.

[0137] There are also prescribed, as names of data elements associated with the SMPTE label, properties (Properties), locators (Locators), class definition (class definitions), type definition (type definitions), operating definitions (Operation Definitions), parameter definitions (Parameter Definitions), data definitions (Data Definitions), plugin descriptors (Plugin Descriptors), codec descriptions (codec descriptions), container description (Container Definitions), interpreter description (Interpolator Definitions), comments (Comments), contains order set (Contains order set), different format specifications (Choices), input segments (Input Segments), nesting information (NestedScope\_Slots), components (Components), locators (Locators), ID lists (Identification List), group slot (Mob\_Slots), point values (PointList), contains stream of data (Contains stream of data), data (Data), ID (Sample Index), weak reference relation (Weak reference relation), weak reference to one object (Weak reference to one object), generation (Generation), data definition (Data Definition), operational definition (Operational Definition), source ID (SourceID), kind of effect (Control Point\_Type), post-editing ID (Operation Definition\_DataDefinition) and control type (Parameter Definition\_Type), as shown with #595 to #627 in Fig.26. There are also prescribed, as names of data elements associated with the SMPTE label, property (Property Definition\_Type), category (Category Class), file descriptors (FileDescriptor Class), group name (MobID), container format (Container Format), description on parameters (Definition), parameter types (Parameter\_type), interpretation (Interpolation), data type (TaggedValue\_Type), strong relevance of objects (Type Definition Strong Object Reference\_Referenced Class), weak relevance of objects (Type Definition Weak Object Reference\_Referenced Class), underline element type (Type Definition PixdArray\_Element Type), variable array element type (Type Definition PixdArray\_Element Type), fixed array element type (Type Definition VariableArray\_Element Type), description on element type (Type Definition String\_Element Type), a string element (Type Definition String\_Element Type), a stream element (Type Definition Stream\_Element Type), weak reference set (Set of weak references), plugin descriptors (Plugin Descriptors), parameters (ParametersDefined, data definitions (Data Definitions), an ordered set of weak references (Ordered set of weak references), degradation of properties (Degrade To), member types (Member Types), class relations (Class Relations), parent class (Parent class), parent class (Parent class), child class (Child class), instances of class (Instance of class), an object class (Object Class), and metadata object definitions (Metadata object definitions), as shown with #628 to #660 in Fig.27.

[0138] There are also prescribed, as names of data elements associated with the SMPTE label, property

(Property definition), hint (Is Searchable), essential/optional (Is Optional), default conditions (Default Value), local ID (local Identification), type definition (Type definition), size (Size), specified size (Is Signed), element name (TypeDefinitionEnumeration\_Element Names), element name (Type Definition Enumeration\_Element Values), number of arrays (Element Count), member names (Member Names), name of extension (Type Definition Extendible Enumeration\_Element Names), name of extension (Type Definition Extendible Enumeration\_Element Vales), instance description (Instance descriptions), description (Description), container definitions (Container definitions), essence labels (Essence Is Identified), code objects (Related Code Objects), plugin code objects (Relations to plugin code objects), name (Name), plug-n (Plugin Descriptor\_Identification), description (Description), version number (Version Number), a version string (Version String), manufacturers (Manufacturer), manufacturer ID (Manufacturer ID), platforms (Platform), platform versions (Min Platform Version), platform OS versions (Max Platform Version), plugin engines (Engine), mini engine version (MinEngine Version) and max engine version (MaxEngine Version), as shown with #661 to #693 in Fig.28.

[0139] There are also prescribed, as names of data elements associated with the SMPTE label, API plugin (Plugin API), mini plugin of API (Mini Plugin API), max plugin API (Max Plugin API), software (Software Only), accelerator (Accelerator), authentication (Authentication), relation to application codes (Relation to application code objects), company name (Company Name), product name (Product Name), product number (Product ID), a product version (Product Version), product version string (Product Version String), a toolkit version (Toolkit Version), a platform (Platform), class 7 space time (SPATIO-TEMPORAL), position and space vectors (Position and Space Vectors), an image coordinate system (Image Coordinate System), map datum used (Map Datum Used), an absolute position (Absolute Position), local datum absolute position (Local Datum Absolute Position), local datum absolute position accuracy (Local Datum Absolute Position Accuracy (m)), a device code (device altitude (m)), a device code (device altitude (meters, concise)), device latitude (Device Latitude (degrees)), device latitude (Device Latitude (degrees, concise)), device longitude (Device Longitude (degrees)), device longitude (Device Longitude (degrees, concise)); device size (X) (device X Dimension(m)), device size (Y) (device Y Dimension(m)); a subject absolute position (Subject Absolute Position) and frame position accuracy (Frame Position Accuracy (m)), as shown with #694 to #726 in Fig.29.

[0140] There are also prescribed, as names of data elements associated with the SMPTE label, a frame centre latitude (Frame Centre Latitude (degrees), a frame centre latitude (Frame Centre Latitude (degrees, concise), a frame centre longitude (Frame Centre Longitude (degrees), a frame centre longitude (Frame Cen-

tre Longitude (degrees, concise), a frame centre longitude (Frame Centre Longitude (degrees), a frame centre latitude longitude (Frame Centre Lat-Long), a relative position (Relative Position), a local datum relative position (Local Datum Relative Position), local datum relative position accuracy (Local Datum Relative Position Accuracy), a device relative position (Device Relative Position), device relative position accuracy (Device Relative Position Accuracy), a device relative position (X) (Device Relative Position X (meters)), a device relative position (Y) (Device Relative Position Y (meters)), a device relative position (Z) (Device Relative Position Z (meters)), a device relative position (Device Relative Position), subject relative positional accuracy (Subject Relative Positional Accuracy (meters)), image position information (Image Position Information), a position within viewed image x coordinate (pixels) (position within viewed image x coordinate (pixels)), a position within viewed image y coordinate (pixels) (position within viewed image y source image centre (x pixel), source image centre (x pixel) (Source image centre x coordinate (pixels)), source image centre (y pixel) (Source image centre y coordinate (pixels)), a view port image centre (x pixel) (Viewport image centre x coordinate (pixels)), a view port image centre (y pixel) (Viewport image centre y coordinate (pixel (y pixel)s)), rate and direction of positional change (Rate and Direction of Positional Change), device rate and direction of positional changes (Device Rate and Direction of Positional Changes), an absolute device rate and direction of positional changes (Absolute Device Rate and Direction of Positional Changes), device movement speed (Device Absolute Speed (meters/sec)), device heading (Device Absolute Heading (degrees)), relative device rate and direction of positional change (Relative Device Rate and Direction of Positional Change), device relative speed (Device Relative Speed (metres/sec)), device relative setting (Device Relative Setting (degrees)), subject rate and direction of positional change (Subject Rate and Direction of Positional Change), absolute subject rate and direction of positional change (absolute subject rate and direction of positional change) and subject absolute speed (metres/sec)), as shown with #727 to #759 in Fig. 30.

**[0141]** There are also prescribed, as names of data elements associated with the SMPTE label, subject absolute heading (subject absolute heading (degrees)), subject absolute heading (Subject Absolute Heading (degrees)), relative subject rate and direction of positional change (Relative Subject Rate and Direction of Positional Change), subject relative speed (Subject Relative Speed (metres/sec)), subject relative heading (subject relative heading (degrees)), angular specifications (angular specifications), device angles (Device angles), sensor roll angle (degrees) (Sensor Roll Angle (degrees)), an angle to north (Angle to North (degrees)), an obliquity angle (Obliquity Angle (degrees)), subject angles (Subject Angles (degrees)), distance measure-

ments (Distance Measurements), a device to subject distance (Device to Subject Distance), a slant range (slant range (metres)), distance (Dimensions), subject dimensions (Subject Dimensions), a target width (Target Width), essence positions (Studio and Location Dimensions), media dimensions (Media Dimensions), a physical media length (Physical Media Length (metres)), image size (Image Dimensions), pan and scan image dimensions (Pan and Scan Image Dimensions), a viewport height (Viewport height), a viewport width (Viewport width), abstract locations (Abstract Locations), place names (Place Names), gazetteer used (Gazetteer used), specified names (Place keyword), country codes (Country Codes), object country code (Object Country Code), country code of shoot (Country Code of Shoot), country code of setting (Country Code of Setting (Characterised Place)), country code of copyright license (Country Code of Copyright License) and country code of IP license (Country Code of IP License), as shown with #760 to #792 in Fig.31.

**[0142]** There are also prescribed, as names of data elements associated with the SMPTE label, regions in a country (Regions), regions of object (Region of Object), regions of shoot (Regions of Shoot), regions of setting (region of setting (Characterised Place)), region or area of Copyright License (Region or Area of Copyright License), region or area of IP License (Region or Area of IP License), a postal address (Postal Address), room numbers (Room Number), street number or building name (Street Number or Building Name), streets (Street), a postal town (Postal Town), city (City), state or province or county (State or Province or County), postal code (Postal Code), country (Country), setting addresses (Setting Address (Characterised Place)), setting room numbers (setting room number), setting street number or building name (Setting Street Number or Building name), setting streets (Setting Street), setting towns (Setting Town), setting city (Setting City), setting state of province or county, (Setting State of Province or County), a Setting postal code (Setting Postal Code), setting country (Setting Country), setting description (Setting Description), electronic addresses (Electronic Address), telephone number (Telephone Number), fax number (FAX Number), e-mail address (e-mail address), date and time information (Date and Time) and material date and time (Material Date and Time), as shown with #793 to #825 in Fig.32.

**[0143]** There are also prescribed, as names of data elements associated with the SMPTE label, operational date and time (Operational Date-Time Stamps), creation date and time (Creation Date-Time Stamps), creation date and time (Creation Date-Time Stamps), last modified data and time (Last Modified Date-Time Stamps), user defined date and time (User Defined Date-Time Stamps), user defined date and time (User Defined Date-Time Stamps), absolute date and time (Absolute Date and Time), start date and time (Start Date and Time), end date and time (End Date and Time),

segment start date and time (Segment Start Date and Time), segment end date and time (Segment End Date and Time); relative date and time (Relative Date and Time), media start date and time (Start Date and Time), media end date and time (End Date and Time), segment start date and time (Segment Start Date and Time), segment end date and time (Segment End Date and Time), time interval (Material Durations), absolute time interval (Absolute Durations), time duration of contents (Time Duration), segment time duration (Segment Duration), frame counts (Frame Count), segment frame counts (Segment frame count), textless black duration (Textless Black Duration), relative durations (Relative Durations), time duration (Time Duration), segment duration (Segment Duration), film frame interval (Frame Count), segment frame count (Segment frame count), rights date and time (Rights Date and Time), copyrights date and time (Copyright Date and Time), IP rights date and time (IP rights date and times) and license date and time (License date and times), as shown with #826 to #858 in Fig.33.

**[0144]** There are also prescribed, as names of data elements associated with the SMPTE label, option start date and time (Option start date and time), license end date and time (License end date and time), option end date and time (Option end date and time), rights durations (Rights Durations), copyrights durations (Copyrights Durations), IP rights durations (IP Rights Durations), license durations (License durations), optional durations (Option duration), cataloguing date and time (Cataloguing date and time), creation date and time (Creation date and time), last modified date and time (Last Modified), event date and time (Event Date and Time), absolute date and time of event (Absolute Date and Time), start date and time of event (Start Date and Time), project start date and time (Project Mission Start Date and Time), scene start date and time (Scene Start Date and Time), shot start date and time (Shot Start Date and Time), broadcast start date and time (Broadcast Start Date and Time), absolute end times (Absolute end times), project mission end date and time (Project Mission End Date and Time), scene end date and time (Scene End Date and Time), shot end date and time (Shot End Date and Time), broadcast end date and time (Broadcast End Date and Time), relative date and time (Relative Date and Time), event relative start date and time (Relative Start Times), project relative start date and time (Project Mission Start Date and Time), scene relative start date and time (Scene Start Date and Time), shot relative start date and time (Shot Start Date and Time), broadcast relative start date and time (Broadcast Start Date and Time), relative end time (Relative End Times), project relative end date and time (Project Mission End Date and Time), scene relative end date and time (Scene End Date and Time) and shot relative end date and time (Shot End Date and Time), as shown with #859 to #891 in Fig.34.

**[0145]** There are also prescribed, as names of data

elements associated with the SMPTE label; relative broadcast end date and time (Broadcast End Time), event duration information (Event Durations), absolute duration information (Absolute Durations), absolute event time duration (Time Duration), relative durations (Relative Durations), relative event time durations (Time Duration), editing date and time (Editing Date and Time), editing length (Length), editing position (Position), relative start time (StartTime), speech fade-in length (FadeInLength), speech fade-out length (Fade Out Length), cut point standard (Cut Point), time standard (Time), last edit date and time (last Modified), ID of last modified results (LastModified), last creation date and time (Last Modified), ID of last modified results (Last Modified), date and time of last creation (Creation Time), speech soft cut default standard (Default Fade Edit Unit), event time unit standard (Event Mob Slot\_Edit Rate), slot time unit standard (Timeline Mob Slot\_EditRate), date of final correction (Identification\_Date), slot origin (Origin), process date and time (Process Date and time), technical modification date and time (Technical Modification date and time), simple correction date and time (Editorial Modification date and time), broadcast date and time (Broadcast Date and Time), cassation date and time (Cassation Date and Time), setting date and time (Characterised Time Period), term of validity of keywords (Time Period Keyword Thesaurus), time unit of keyword (Time Period of Keyword), delay time (Delay) and the encoding/decoding information (Encoding/Decoding Information), as shown with #892 to #924 in Fig.35.

**[0146]** There are also prescribed, as names of data elements associated with the SMPTE label, encoding delay (Encoding Delay), decoding delay (Decoding Delay), buffer delay (Buffer Delay), latency information (Latency), temporal information (Temporal Shape (Shuttering etc) (PLACEHOLDER)), shutter characteristics (Shutter characteristics (placeholder)), shutter speed (Shutter speed (placeholder)), shutter gating characteristics (Shutter Gating (placeholder)), class 14 user data (USER ORGANIZATION REGISTERED), publicly registered user organization metadata (publicly registered user organization metadata), private metadata (Privately registered user organization metadata), metadata for US Department of Defence Agency (DoD Metadata), UAV metadata (UAV metadata), RQ1A metadata (RQ1A metadata), RQ1A closed caption metadata (RQ1A closed caption Set) and class 15 experimental metadata (experimental metadata), as shown with #925 to #940 in Fig.36.

**[0147]** In this programme preparation and distribution system, essence data and metadata are converted into the MXF file format when transmitted on the gigabit Ethernet 1. For example, there are occasions wherein the video essence recorded on a recording medium becomes a sole MXF file or a sole MXF file is prepared from a sole video programme, wherein the unit of the essence can be freely set depending on the application.

**[0148]** A metadata MXF file 200 is made up of a pre-

amble portion 201 for stating metadata, a main portion (body portion) 202 for stating the essence data, an index portion 203 containing an index table and a postamble unit 204, as shown in Fig.37.

[0149] The preamble portion 201 is made up of a universal label 205, an allocation table 206 and an overall metadata area 207. The universal label 205 of this metadata MXF file 200 has the same syntax structure as the universal label of the KLV coding. The allocation table 206 is a table on which is registered the allocation information of each object in the overall metadata area 207.

[0150] The overall metadata area 207 is an area in which is stated metadata registered in a metadata dictionary which is the dictionary provision in which the universal label standardized in the SMPTE 298M is taken into keys. A Header\_Object 210 is a root object for indicating each object of this overall metadata area 207. Specifically, there are provided in the node of this Header\_Object 210 Identification\_Object 211, Master\_Metadata\_Object 212, Source\_Metadata\_Object 213 and Essence\_Data\_Object 214. Since the master essence is made up of plural sorts of source essences, metadata concerning the master essence and metadata concerning the source essence are expressed by another object in this overall metadata area 207.

[0151] The Master\_Metadata\_Object 212 is an object containing metadata for explaining the properties of each essence contained in this metadata MXF file 200 and pointers for pointing to a Master\_Timeline\_Track\_Objects 215. The Master\_Timeline\_Track\_Objects 215 is an object which defines and explains tracks contained in this metadata MXF file 200 and which points to a Master\_Clip\_Object 216. A track herein means a unit set from one essence sort, such as video or audio, to another, whilst clip means an editing clip provided for respective in- and out-points in essence editing and has a unit different from that of a scene. The Master\_Clip\_Object 216 is an object containing metadata indicating which source material is being used, and also containing a pointer indicating the Source\_Metadata\_Object 213.

[0152] The Source\_Metadata\_Object 213 is an object provided for each source essence constituting a master essence and is an object containing metadata concerning the source essence and a pointer indicating a Source\_Timeline\_Track\_Object 217. The Source\_Timeline\_Track\_Object 217 is an object set from one track of each source essence to another and includes metadata concerning each track and a pointer for indicating a Source\_Clip\_Object 218. The Source\_Clip\_Object 218 is an object set from one clip contained in each track constituting each source essence, and includes metadata concerning the clip and a pointer for indicating an Essence\_Clip 219. Therefore, the Essence\_Clip 219 is an object containing data of clips constituting the essence.

[0153] In this programme preparation and distribution system 100, programme preparation and distribution

processing is carried out in accordance with a work flow shown in Figs.38 and 39.

[0154] That is, in the work flow of this programme preparation and distribution system 100, the pre-production processing executed by the distributed programme editing system 10 is shown as a programme planning processing PLN in which an acquisition processing ACQ is carried out by the acquisition system 60 and the material storage (ingestion) processing ING, editing processing ED, CG generating processing (CG creation) processing CGC and audio creation processing AUC are carried out to prepare a distribution programme. On the distribution programme, so prepared, the program distribution processing DST and the programme archiving processing are executed by the programme distribution system 50 and by the archive system 40, respectively,

[0155] In this programme preparation and distribution system 100, metadata indicating the variable information is generated from project to project, from medium to medium, from scene to scene or from frame to frame, to realize an asset management by controlling the archive system 40 depending on metadata.

[0156] Among the metadata generated from project to project, there are metadata indicating variable information, such as main title (Main Title), secondary title (Secondary Title (Sub-Title)), series (Series Number), episodes (Episode), original (Original Bock/Title), author (Original Author/Writer), director (Director), right (Right) or copyright (Copyright).

[0157] Among metadata generated from medium to medium, there are metadata indicating variable information, such as real (roll) number (Real Number (Roll Number)), or frame rate (Frame rate).

[0158] Among metadata generated from scene to scene, there are metadata indicating the variable information, such as performers (Cast Actor/Actress), elements (Elements), screen play (Screen Play), scene description (Scene Description), sets (Set), properties (Properties), unit/crew/staff (Unit/Crew/Staff), camera setup data (Camera Setup Data), writing information (Writing Info), video format (Video Format), audio format (Audio Format), audio channel assignment (Audio Channel Assignment), motion capture data (motion capture data), comment (Comment), telecine data (Telecine Data), composers of sound track (SoundTrack(Music)), song writers (Song Writer), an arranger (Arranger), compositing information (Compositing Info), visual effect (Visual Effects), sound effects (Sound. Effects), V-Chip information (V-chip information) or generation (Generation (Number of copies)).

[0159] Among metadata generated from frame to frame, there are metadata indicating variable information, such as scene number (Scene Number), shot number (Shot Number), take number (Take Number), OK shot/NG shot (OK shot/NG shot), UMID (video) (UMID for video essence), UMID (audio) (UMID for audio essence), UMID (others) (UMID for Others), places

(Places), GPS latitude (GPS Latitude), GPS longitude (GPS Longitude), GPS altitude (GPS Altitude), camera ID (Camera ID), camera lens (Camera Lens Data), lens ID (Lens ID), focus (Focus), zoom (Zoom), iris (Iris), tripod angle information (Tripod), tripod ID (Head ID), pan (Pan), tilt (Tilt), roll (Roll), dolly position information (Dolly), arm height (Arm Height), position (Travel) and closed caption (Closed Caption).

[0160] In the pre-production step executed by the distributed programme editing system 10, planning processing PP1, casting (Casting) processing PP2, storyboard processing PP3, screen play processing PP4, location hunting processing PPS and scheduling processing PP6, are carried out.

[0161] In the planning processing PP1 for inspecting the programme contents, there are generated metadata such as main title (Main Title), secondary title (Secondary Title (Sub-Title)), series (Series Number), episodes (Episode), original (Original Book/Title), author (Original Author/Writer), director (Director), element (Element), comment (Comment), composer (Composer) of sound track (soundtrack(Music)), song writers (Song Writer), arrangers (Arranger), rights (Right), copyright (Copyright) or V-Chip information (V-Chip info). In the stage of the casting processing PP2, metadata indication the information determining the performers, metadata indicating the variable information such as performers (Cast Actor/Actress) or unit/crew/staff (Unit/Crew/Staff) is generated. In the stage of the storyboard processing PP3 for inspecting the programme contents, there are generated metadata such as scene number (Scene Number), shot number (Shot Number), set (Set), properties (Properties), video format (Video Format), frame rate (Frame rate), audio format (Audio format) or audio channel assignment (Audio Channel Assignment). In the stage of screen play processing PP4 of ascertaining the screen play, there are generated metadata such as screen play (Screen Play), scene description (Scene Description), place (Place) and closed caption.

[0162] The metadata indicating variable information such as main title (Main Title), secondary title (Secondary Title (Sub-Title)), series (Series Number), episodes (Episode), original (Original Book/Title), author (Original Author/Writer) or director (Director), are generated after the project and are utilized for the casting (Casting) processing PP2, storyboard processing PP3, screen play processing PP4, location hunting processing PP5 and scheduling processing PP6, while being utilized for the acquisition processing ACQ by the acquisition system 60, authoring processing (Authoring) by the production system 20, programme distribution processing DST by the programme distribution system 50 or the programme archiving processing ARV by the archive system 40.

[0163] The variable metadata, generated by the distributed programme editing system 10 in the pre-production stage, are transmitted over the gigabit Ethernet 1 to the archive system 40 for storage in a petasite 40B

of the archive system 40. The production system 20, new system 30, archive system 40, programme distribution system 50 and the acquisition system 60 are able to capture the variable metadata stored in the petasite 40B of the archive system 40 over the gigabit Ethernet 1 as necessary.

[0164] Meanwhile, there are occasions wherein the variable metadata, generated in the pre-production stage, are modified and rewritten in the variable processing stages which will be explained subsequently.

[0165] The acquisition system 60 takes the metadata required for acquisition equipments, that is shot devices, to execute the acquisition processing ACQ.

[0166] In the acquisition processing ACQ, executed by the acquisition system 60, metadata indicating the real (roll) number (Real Number (Roll Number)), scene number (Scene Number), take number (Take Number), OK shot/NG shot (OK shot/NG shot), UMID (video) (UMID for video essence), UMID (audio) (UMID for audio essence), UMID (data) (UMID for data essence), UMID (others), (UMID for Others), camera setup data (Camera Setup Data), camera ID (Camera ID), camera lens (Camera Lens Data), lens ID (Lens ID), focus (Focus), zoom (Zoom), iris (Iris), tripod angle information (Tripod), tripod ID (Head ID), pan (Pan), tilt (Tilt), roll (Roll), dolly position information (Dolly), arm height (Arm Height) or position (Travel), are generated.

[0167] The variable metadata, generated in the acquisition processing stage by the acquisition system 60, is supplied along with the image and speech information, obtained on acquisition, to the production system 20.

[0168] The production system 20 executes an ingesting (Ingesting) processing PR1, telecine (Telecine) processing PR2, dupe (Dupe) processing PR3, off-line editing (Off-line Editing) processing PR4, complete edit (Complete Edit) processing PR5, voice over (Voice Over) processing PR6, sound effect (Sound Effect) processing PR7, sound sweetening (Sound Sweetening) processing PR8, CG creation (CG Creation) processing PR9 and finishing (Finishing) processing PR10.

[0169] The ingesting (Ingesting) processing PR1 in the production system 20 stores the variable metadata generated on acquisition by the acquisition system 60 along with the video or audio information. The telecine processing PR2 converts the video or audio information recorded on the film obtained by the acquisition system 60 into television signals. The off-line editing processing PR4 performs material editing operations on the video and audio data (material data), based on the information concerning the material added as metadata, to prepare an editing decision list (EDL) which is the metadata derived from the editing results. The editing results indicate the in- and out-points on the recording medium and the information concerning the edit points represented by the real number 1 or the time code. The present complete edit (Complete Edit) processing PR5 executes

complete editing on the material stored by the telecine processing PR2 using the EDL prepared by the off-line editing processing PR4. The finishing (Finishing) processing PR9 completes the distributed programme using the video and audio data completely edited by the complete editing processing PR5 and an audio material processed with voice over. (Voice Over) processing PR5. There are occasions wherein the CG picture prepared by the CG creation (CG Creation) processing CGC or the material stored in the archive system 40 is used at this time.

[0170] The programme distribution system 50 executes the authoring processing of distributing the distribution programme completed by the finishing (Finishing) processing PR9 as a package medium or the distribution processing of distributing the programme over a radio network or a wired network.

[0171] The programme preparation and distribution system 100 of the above-described structure inputs, in the pre-production stage executed by the distributed program editing system 10 and in the casting processing PP2 such metadata as main title (Main Title), secondary title (Secondary Title (Sub-Title)), series (Series Number), episodes (Episode), original (Original Book/Title), author (Original Author/Writer), director (Director), composer (Composer) of sound track (SoundTrack (Music)), song writers (Song Writer) or arrangers (Arranger), to a computer or a portable telephone device, and sends to the production system 20 the input metadata co-packed with the video or audio information obtained on acquisition by the acquisition system 60, to perform timing designation of flowing the staff roll in the off-line editing processing PR4 in the production system 20 to automatically generate characters consistent with the metadata co-packed with the audio or video information to effect complete edit processing PR5.

[0172] In this programme preparation and distribution system 100, a database is constructed in which the archive system 40 manages metadata in a concentrated fashion along with the essence such as video and audio data. By the distributed programme editing system 10, the metadata inputted at the planning processing PP1 and at the casting processing PP2 is registered in the database managed in a concentrated fashion by an archival manager 40A of the archive system 40, at the same time as a tag specifying the registered metadata is issued. This tag is co-packed with the video and audio information obtained on acquisition by the acquisition system 60. In the production system 20, the timing to flow the staff roll is specified during the off-line processing PR4 in the production system 20. In accordance with the specified timing, the metadata is taken out from the database pointed by the tag co-packed with the video information or the audio information to generate the corresponding character automatically to effect complete editing processing.

[0173] That is, with the present programme preparation and distribution system 100, it is possible to con-

struct a supporting system of automatically generating the character of the staff roll using the metadata.

[0174] In this programme preparation and distribution system 100, the GPS data indicating the place, position or time of acquisition is inputted as metadata in the stage of the acquisition processing ACQ by the acquisition system 60 and the input metadata is co-packed with the audio or video information obtained on acquisition by this acquisition system 60. At the off-line editing processing PR4 in the production system 20, an editor is able to execute temporal programme distribution without the editor becoming conscious of the presence of the GPS data. At the CG creation processing PR9, retrieval is made from the database showing a separately provided database, using tag data indicating the position or time co-packed in the video or audio information to output map graphics to complete the programme employing the map graphic by the complete editing processing PR5.

[0175] In this case, as when automatically generating the character, the metadata indicating the position or time can be registered in the database managed in a concentrated fashion by the archival manager 40A of the archive system 40 to support the CG creation processing PR9.

[0176] That is, in this programme preparation and distribution system 100, the GPS data and map data can be matched to each other, using metadata, to construct the CG creation supporting system.

[0177] If it is attempted to prepare contents using the VTR, a large amount of a material video tape is produced in acquisition. For example, if a 30-minute document is to be created, 50 to 100 material tapes are produced and necessary cuts are selected therefrom and connected together to prepare contents.

[0178] Thus, in this programme preparation and distribution system 100, metadata of such items as UMID (video) (UMID for video essence), reminiscent of contents acquired in the material tape (UMID for video essence), UMID (audio) (UMID for audio essence), UMID (data) (UMID for data essence), UMID (others) (UMID for others), reel (roll) number (Real Number (Roll Number), tape ID (Tape ID), tape number (Tape ID Number), object ID (object ID), main title (Main Title), secondary title (Secondary Title (Sub-Title)), series (Series Number), episodes (Episode), metadata to essence (Metadata to Essence), locators (Locators) or essence descriptions (Essence Descriptions), are co-packed and recorded along with the video or audio information. This enables the production system 20 to read out the metadata at the time of reproduction to retrieve the cuts as necessary from the material tape quickly, using the read-out metadata as clue. In this case, metadata of items reminiscent of the contents recorded in the material tape is co-packed with the video or audio information and recorded in synchronism in a video frame or the contents of tens to hundreds of video tapes are collected and recorded on a controllable external recording me-



dium.

[0179] That is, in this programme preparation and distribution system 100, a supporting system can be constructed in which the labor in tape screening operations can be diminished with the aid of metadata.

[0180] Moreover, in this programme preparation and distribution system 100, metadata of items concerning the telecine, such as vertical rate (Vertical rate), a frame rate (Frame Rate), total number of lines/frame (Total lines per Frame), active lines/frame (Active Lines per Frame), aspect ratio (Display Aspect Ratio), image aspect ratio (ImageAspectRatio), stored height (Stored Height), sample height (Sample Height), sample width (Sample Width), sample X offset (SampledX Offset), sample Y offset (SampledY Offset), display width (Display Width), displayX Offset (DisplayX Offset) or video coding characteristics (Video Coding Characteristics) are co-packed and recorded along with the video or audio information. In this manner, in the complete edit processing PR5, output trimming positions can be calculated using metadata recorded in keeping with the output format after the editing operation following the output format to obtain an output.

[0181] Also, in this programme preparation and distribution system 100, the essence data and metadata when transmitted on the gigabit Ethernet 1 are converted to the MXF file format, such that, in the editing operation by the production system 20, the status of the material used in the editing operation is stated as hysteresis in the header information. The contents makeup can be comprehended from the header information. The Clip\_object, for example, terms the scene or cut a clip and indicates the time code indicating the temporal beginning or end, as described above. The contents are a set of clips. By sequentially searching the information indicated by the clip in the chronological sequence, it is possible to know the time code as a chapter candidate. Since the number of ultimate chapters is smaller than the number of change points of clips, the entire chapters can be determined by selecting only necessary ones of candidate chapters.

[0182] Thus, in this programme preparation and distribution system 100, in distributing the contents prepared by the production system 20 by mediums, such as DVD or LD, the MFX file headers are searched for packages, the editing operations of which has been completed by the production system 20, the MFX file headers are searched to list up candidates of chapter points and the chapter points ahead and in back of the candidates are viewed to select only necessary chapter points to convert the format for distributing the contents to the mediums, such as DVD or LD, by way of authoring processing. That is, in this authoring system 52, authoring processing of the editing video programme is performed from the metadata specifying the logical structure of the video programme.

[0183] In addition, in this programme preparation and distribution system 100, in which the information such

as rights concerning performers from scene to scene (Rights), copyright (Copyright), intellectual rights (Intellectual Rights), owners (Rights Owner), payments and costing information (Payments and costing), is logged and recorded simultaneously as metadata, it is possible to trace clips if such clips are sliced.

[0184] According to the present invention, in which the essence is created, metadata for describing the essence is generated when creating the essence, the essence and the metadata are correlated with each other, and the operation to be performed on the archived essence is controlled based on the metadata to perform the asset management on the essence, it is possible to process a sequence of operations from the acquisition and preparation to the editing, sending out and archiving efficiently.

[0185] Moreover, according to the present invention, in which the essence is created, metadata for explaining the essence is generated, the essence and the metadata are archived in relation with each other, and the metadata is used to control the operation performed on the archived essence, asset management may be performed on the essence.

[0186] Also, according to the present invention, in which metadata for explaining the essence is generated and the essence and the metadata are controlled based on the above-mentioned information to effect the asset management on the essence, it is possible to realize efficient processing of a sequence of operations from acquisition and creation to the editing, sending out and archiving.

[0187] In addition, according to the present invention, in which the information specifying the attributes of the essence, the essence and the information are recorded correlatively with each other on a recording medium and the recording and/or reproducing operations for reproducing the essence from the recording medium is controlled based on the above-mentioned information, to perform the asset management on the essence, it is possible to realize efficient processing of a sequence of operations from acquisition and creation to the editing, sending out and archiving.

[0188] Furthermore, according to the present invention, in which metadata for specifying the attributes of the essence or metadata or identifying the essence is generated, and the operation of archiving the essence correlatively with the metadata is controlled using the metadata, to perform the asset management for the essence, it is possible to realize efficient processing of a sequence of operations from acquisition and creation to the editing, sending out and archiving.

[0189] According to the present invention, by creating an essence and generating metadata used for accounting for the essence, it is possible to create the project from the essence efficiently using the metadata.

[0190] Also, according to the present invention, by creating an essence, generating metadata used for accounting for the essence, and controlling an operation



of post-production based on the metadata, it is possible to create the project from the essence efficiently.

[0191] Also, according to the present invention, by creating an essence, generating metadata used for accounting for the essence, and performing an operation of post-production correlatively with the metadata, it is possible to create the project from the essence efficiently.

[0192] Also, according to the present invention, by creating an essence and generating metadata used for identifying the essence, it is possible to create the project from the essence efficiently using the metadata generated at the time of the production.

[0193] Also, according to the present invention, by creating an essence, generating metadata used for identifying the essence, and controlling an operation of postproduction based on the metadata, it is possible to create the project from the essence efficiently.

[0194] Further, according to the present invention, by creating an essence, generating metadata used for identifying the essence, and performing an operation of post-production correlatively with the metadata, it is possible to create the project from the essence efficiently.

[0195] According to the present invention, by generating metadata for accounting for the essence, performing an operation of the production using the metadata, and creating the essence, it is possible to create the project from the essence efficiently.

[0196] Also, according to the present invention, by generating metadata for accounting for the essence, creating the essence and storing the essence and the metadata correlatively with each other on a recording medium, and performing an operation of production using the metadata, it is possible to create the project from the essence efficiently.

[0197] According to the present invention, by creating the essence and generating metadata used for accounting the essence, and performing control based on the metadata so that an asset management for the essence archived will be performed to archive the essence and the metadata correlatively with each other, it is possible to archive the essence efficiently.

[0198] Also, according to the present invention, in a method for archiving an essence, by creating the essence and generating metadata used for accounting the essence, performing an operation for the essence using the metadata, and archiving and essence and the metadata correlatively with each other, it is possible to archive the essence efficiently.

[0199] Also, according to the present invention, in a method for archiving an essence, by creating the essence and generating metadata used for accounting the essence, and controlling a reproducing operation for the essence archived, using the metadata, the essence and the metadata are archived correlatively with each other. Thus, it is possible to archive the essence efficiently.

[0200] Also, according to the present invention, in a

method for archiving an essence, by creating the essence and generating metadata used for accounting the essence, and controlling a retrieving operation for the essence archived, using the metadata, the essence and the metadata are archived correlatively with each other. Thus, it is possible to archive the essence efficiently.

[0201] Also, according to the present invention, in a method for archiving an essence, by creating the essence and generating metadata pertinent to the essence, and performing control, using the metadata, so that an operation for the essence archived will be performed, the essence and the metadata are archived correlatively with each other. Thus, it is possible to archive the essence efficiently.

[0202] Also, according to the present invention, in a method for archiving an essence, by creating the essence and generating metadata pertinent to the essence, and performing control based on the metadata so that an asset management for the essence archived will be performed, the essence and the metadata are archived correlatively with each other. Thus, it is possible to archive the essence efficiently.

[0203] Also, according to the present invention, in a method for archiving an essence, by creating the essence and generating metadata pertinent to the essence, and controlling a reproducing operation for the essence archived, using the metadata, the essence and the metadata are archived correlatively with each other. Thus, it is possible to archive the essence efficiently.

[0204] Also, according to the present invention, in a method for archiving an essence, by creating the essence and generating metadata pertinent to the essence, and controlling a retrieving operation for the essence archived, using the metadata, the essence and the metadata are archived correlatively with each other. Thus, it is possible to archive the essence efficiently.

[0205] According to the present invention, by creating the essence and generating metadata pertinent to the essence, and performing post-production processing on the essence; it is possible to allot the essence efficiently using metadata generated at the time of the production.

[0206] Also, according to the present invention, by creating the essence and generating metadata pertinent to the essence, performing post-production processing on the essence, and controlling an operation of distribution, using the data, it is possible to allot the essence efficiently.

[0207] Also, according to the present invention, in a distribution method for allotting an essence, by creating the essence and generating metadata used for accounting for the essence, and performing post-production processing on the essence, it is possible to allot the essence efficiently, using the metadata generated at the time of the production.

[0208] Further, according to the present invention, in a distribution method for allotting an essence, by creating the essence and generating metadata used for accounting for the essence, performing post-production

processing on the essence, and controlling an operation of the distribution, using the metadata used at the time of the production, it is possible to allot the essence efficiently.

**[0209]** According to the present invention, by creating the essence and generating metadata pertinent to the essence, performing post-production on the essence, and creating the package medium from an essence processed with post-production using metadata, it is possible to create a package medium efficiently from an essence.

**[0210]** Also, according to the present invention, by generating metadata pertinent to the essence, creating the essence, performing post-production on the essence, and creating the package medium from an essence processed with post-production using the metadata, it is possible to create a package medium efficiently from an essence.

**[0211]** Also, according to the present invention, by creating the essence and generating metadata used for accounting for the essence, and creating the package medium from an essence processed with post-production, using the metadata, it is possible to create a package medium efficiently from an essence.

**[0212]** Further, according to the present invention, by generating metadata used for accounting for the essence, creating the essence; performing post-production on the essence, and creating the package medium from an essence processed with post-production, using metadata generated at the time of the pre-production, it is possible to create a package medium efficiently from an essence.

**[0213]** According to the present invention, by generating metadata indicating the rights of the essence, and performing control based on the metadata so that a circulating operation of the essence will be performed, asset management processing is effected on the essence. Thus, it is possible to manage the essence efficiently.

**[0214]** Also, according to the present invention, by generating metadata specifying rights pertinent to the essence, and performing control based on the metadata so that a circulation operation of the essence will be performed, asset management processing is effected on the essence. Thus, it is possible to manage the essence efficiently.

**[0215]** Also, according to the present invention, by generating metadata specifying rights pertinent to the essence, and performing control based on the metadata so that a re-utilizing operation of the essence will be performed, asset management processing is effected on the essence. Thus, it is possible to manage the essence efficiently.

**[0216]** Also, according to the present invention, by creating the essence and generating metadata specifying rights pertinent to the essence, and performing control based on the metadata so that a re-utilizing operation of the essence will be performed, asset management processing is effected on the essence. Thus, it is

possible to manage the essence efficiently.

**[0217]** According to the present invention, by creating the essence and for generating UMID (unique material identifier) for discriminating the essence, controlling an operation in the post-production based on the UMID, and editing the essence, the programme is generated. Thus, it is possible to create the programme efficiently from the essence.

**[0218]** Also, according to the present invention, by creating the essence and for generating UMID (unique material identifier) for discriminating the essence, controlling an archiving operation of archiving an essence generated by production processing and/or an essence processed with post-production based on the UMID, and editing the essence, the programme is generated. Thus, it is possible to create the programme efficiently from the essence.

**[0219]** According to the present invention, by generating a plurality of metadata which are data pertinent to the essence and which are respectively identified by SMPTE (Society of Motion Picture and Television Engineers) labels, receiving the essence and the plural metadata and analyzing the SMPTE labels to extract pre-set metadata from the plural metadata, and controlling the processing relevant to the essence based on the extracted metadata, it is possible to create the essence efficiently.

**[0220]** Also, according to the present invention, by generating a plurality of metadata which are data pertinent to the essence and which are respectively identified by SMPTE (Society of Motion Picture and Television Engineers) labels, receiving the essence and the plural metadata and analyzing the SMPTE labels to extract pre-set metadata from the plural metadata, and controlling the production processing performed on the essence based on the extracted metadata, it is possible to create the essence efficiently.

**[0221]** Also, according to the present invention, by generating a plurality of metadata which are data pertinent to the essence and which are respectively identified by SMPTE (Society of Motion Picture and Television Engineers) labels, receiving the essence and the plural metadata and analyzing the SMPTE labels to extract pre-set metadata from the plural metadata, and controlling the post-production processing performed on the essence based on the extracted metadata, it is possible to create the essence efficiently.

**[0222]** Also, according to the present invention, by generating a plurality of metadata which are data pertinent to the essence and which are respectively identified by SMPTE (Society of Motion Picture and Television Engineers) labels, receiving the essence and the plural metadata and analyzing the SMPTE labels to extract pre-set metadata from the plural metadata, and controlling the archiving processing performed on the essence based on the extracted metadata, it is possible to create the essence efficiently.

**[0223]** Further, according to the present invention, by

generating a plurality of metadata which are data pertinent to the essence and which are respectively identified by SMPTE (Society of Motion Picture and Television Engineers) labels, receiving the essence and the plural metadata and analyzing the SMPTE labels to extract pre-set metadata from the plural metadata, and controlling an operation for asset management performed on the essence based on the extracted metadata, it is possible to create the essence efficiently.

## Claims

1. An asset management system for managing an essence, comprising:

means for creating said essence and for generating metadata for explaining said essence when creating said essence;  
means for archiving said essence and the metadata correlatively with each other; and  
means for controlling an operation performed on the archived essence based on said metadata to realize asset management for said essence.

2. An asset management system for managing an essence, comprising:

means for generating the information for explaining said essence;  
means for recording and/or reproducing said essence and the information correlatively with each other; and  
means for managing and/or controlling a recording and/or reproducing operation of said essence based on said information to effect asset management for said essence.

3. An asset management system for managing an essence, comprising:

means generating the information specifying attributes of said essence;  
recording said essence and the information correlatively with each other on a recording medium to reproduce said essence from said recording medium; and  
control means for controlling the recording and/or reproducing operations for said essence based on said information to effect asset management for said essence.

4. An asset management method for managing an essence, comprising:

creating said essence and for generating metadata for explaining said essence when creating

said essence;  
associating said essence and the metadata with each other; and  
controlling an operation performed on the archived essence based on said metadata to realize asset management for said essence.

5. An asset management method for managing an essence, comprising:

generating the information for explaining said essence; and  
controlling the recording and/or reproducing operation of recording and/or reproducing said essence and the information correlatively with each other based on said information to effect asset management for said essence.

6. An asset management method for managing an essence, comprising:

generating the information specifying attributes of said essence; and  
recording said essence and the information correlatively with each other on a recording medium and controlling the recording and/or reproducing operations for said essence based on said information to effect asset management for said essence.

7. A production system for creating a project from an essence, comprising:

production for creating said essence and for generating metadata for accounting for said essence; and  
post-production of creating said project from said essence using metadata generated at the time of said production.

8. A production system for creating a project from an essence, comprising:

production for creating said essence and for generating metadata for accounting for said essence; and  
post-production of creating said project from said essence;

wherein an operation of said post-production is controlled based on metadata generated at the time of said production.

9. A production method for creating a project from an essence, comprising the steps of:

creating said essence and generating metadata used for accounting for said essence; and

creating said project from said essence using said metadata.

10. A production method for creating a project from an essence, comprising the steps of:

5

creating said essence and generating metadata used for accounting for said essence; and controlling an operation of post-production based on said metadata to create said project from said essence.

10

11. A production system for creating a project from an essence, comprising:

15

pre-production for creating metadata used for accounting for said essence; production for performing an operation for creating said essence, using said metadata; and post-production for creating said project from said essence.

20

12. A production system for creating a project from an essence, comprising:

25

a pre-production for creating metadata used for accounting for said essence; a production for creating said essence and for storing said essence and the metadata correlatively with each other on a recording medium; and a post-production for creating said project from said essence;

30

wherein an operation in said production is performed using the metadata generated at the time of said pre-production.

35

13. An archiving system for archiving an essence, comprising:

40

production for creating said essence and for generating metadata used for accounting said essence; archiving means for archiving said essence and the metadata correlatively with each other; and means for controlling said archiving means so that an operation for said essence will be performed using said metadata.

45

50

14. An archiving system for archiving an essence, comprising:

production for creating said essence and for generating metadata used for accounting said essence; archiving means for archiving said essence and the metadata correlatively with each other; and

55

controlling means for controlling said archiving means so that asset management for said essence archived by said archiving means will be performed based on said metadata.

15. A method for archiving an essence, comprising the steps of:

creating said essence and generating metadata used for accounting said essence; performing an operation for said essence using said metadata; and archiving said essence and the metadata correlatively with each other.

16. A method for archiving an essence, comprising the steps of:

creating said essence and generating metadata used for accounting said essence; and performing control based on said metadata so that an asset management for said essence archived will be performed to archive said essence and the metadata correlatively with each other.

17. A distribution system for allotting an essence, comprising:

a production for creating said essence and for generating metadata pertinent to said essence; a post-production for performing post-production processing on said essence; and distribution means for allotting said essence using metadata generated at the time of said production.

18. A distribution system for allotting an essence, comprising:

a production for creating said essence and for generating metadata pertinent to said essence; a post-production for performing post-production processing on said essence; and distribution means for allotting said essence;

wherein an operation of said distribution means is controlled using the metadata used at the time of said production.

19. A distribution method for allotting an essence, comprising the steps of:

creating said essence and generating metadata pertinent to said essence; performing post-production processing on said essence; and allotting said essence using metadata generated

ed at the time of said production.

20. A distribution method for allotting an essence, comprising the steps of:

creating said essence and generating metadata pertinent to said essence;  
performing post-production processing on said essence; and  
controlling an operation of distribution, using said data, to allot said essence.

21. An authoring system for creating a package medium from an essence, comprising:

a production for creating said essence and for generating metadata pertinent to said essence;  
a post-production for performing post-production on said essence; and  
authoring means for creating said package medium from an essence processed with post-production, using metadata generated at the time of said production.

22. The authoring system according to claim 1 wherein said authoring means performs authoring processing for an editing video programme from metadata indicating the logical structure of a video programme.

23. An authoring method for creating a package medium from an essence, comprising the steps of:

creating said essence and generating metadata pertinent to said essence;  
performing post-production on said essence; and  
creating said package medium from an essence processed with post-production using metadata.

24. An authoring method for creating a package medium from an essence, comprising the steps of:

generating metadata pertinent to said essence;  
creating said essence;  
performing post-production on said essence; and  
creating said package medium from an essence processed with post-production using said metadata.

25. An asset management system for managing an essence, comprising:

a pre-production for generating metadata indicating the rights of said essence and;  
a production for creating said essence;

asset management means for performing asset management processing on said essence; and means for controlling said asset management means so that a circulation operation of said essence will be performed based on said metadata.

26. An asset management system for managing an essence, comprising:

means for creating said essence and for generating metadata specifying rights pertinent to said essence;  
asset management means for performing asset management processing on said essence; and means for controlling said asset management means, based on said metadata, so that a circulating operation of said essence will be performed based on said metadata.

27. An asset management method for managing an essence, comprising the steps of:

generating metadata indicating the rights of said essence;  
creating said essence; and  
performing control based on said metadata so that a circulating operation of said essence will be performed to effect asset management processing on said essence.

28. An asset management method for managing an essence, comprising the steps of:

creating said essence and for generating metadata specifying rights pertinent to said essence; and  
performing control based on said metadata so that a circulation operation of said essence will be performed to effect asset management processing for said essence.

29. A production system for creating a programme from an essence, comprising:

a production for creating said essence and for generating UMID (unique material identifier) for discriminating said essence;  
a post-production for editing said essence for generating said programme; and  
means for controlling an operation in said post-production based on said UMID.

30. A production method for creating a programme from an essence, comprising the steps of:

creating said essence and for generating UMID (unique material identifier) for discriminating

said essence; and  
controlling an operation in said post-production  
based on said UMID to edit said essence to  
generate said programme.

5

31. A production system for creating an essence, comprising:

means for generating a plurality of metadata  
which are data pertinent to said essence and 10  
which are respectively identified by SMPTE  
(Society of Motion Picture and Television Engineers) labels;  
means for receiving said essence and said plural 15  
metadata and analyzing said SMPTE labels  
to extract pre-set metadata from said plural  
metadata; and  
means for controlling the processing relevant  
to said essence based on the extracted meta- 20  
data.

32. A control method of a production system for creating an essence, comprising the steps of:

generating a plurality of metadata which are data 25  
pertinent to said essence and which are respectively  
identified by SMPTE (Society of Motion Picture and  
Television Engineers) labels;  
receiving said essence and said plural metadata 30  
and analyzing said SMPTE labels to extract  
pre-set metadata from said plural metadata;  
and  
controlling the processing relevant to said essence  
based on the extracted metadata. 35

40

45

50

55

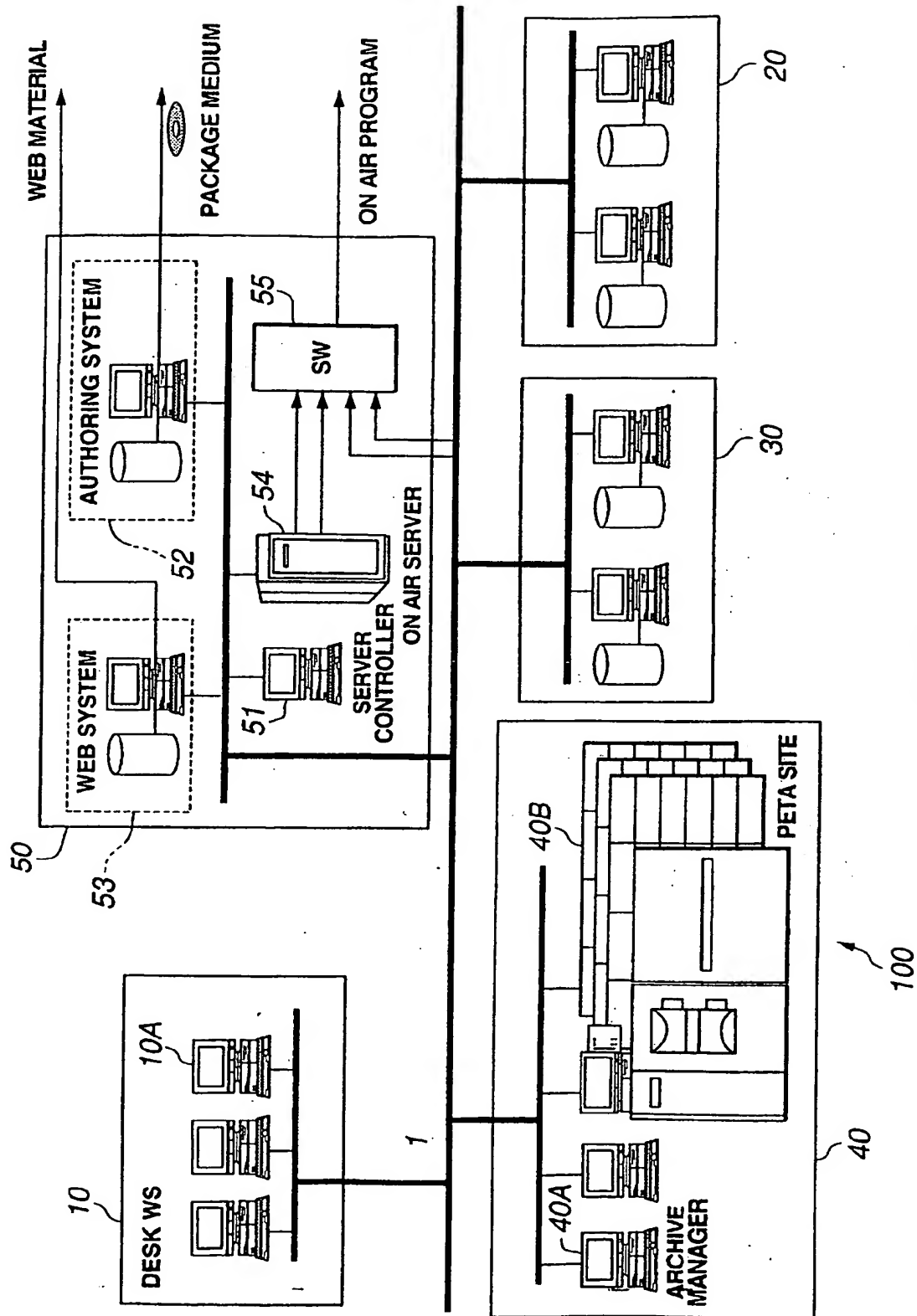


FIG.1



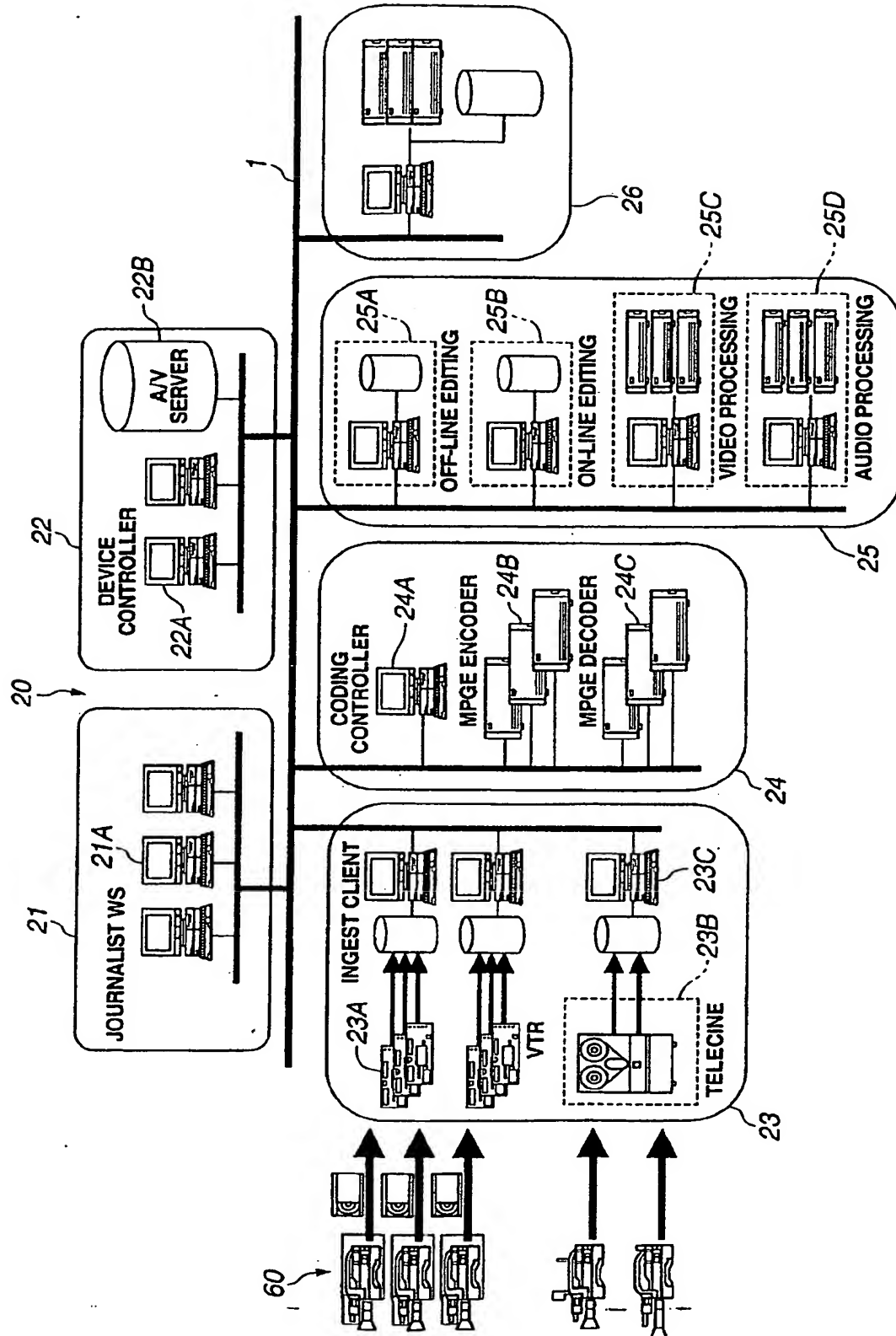
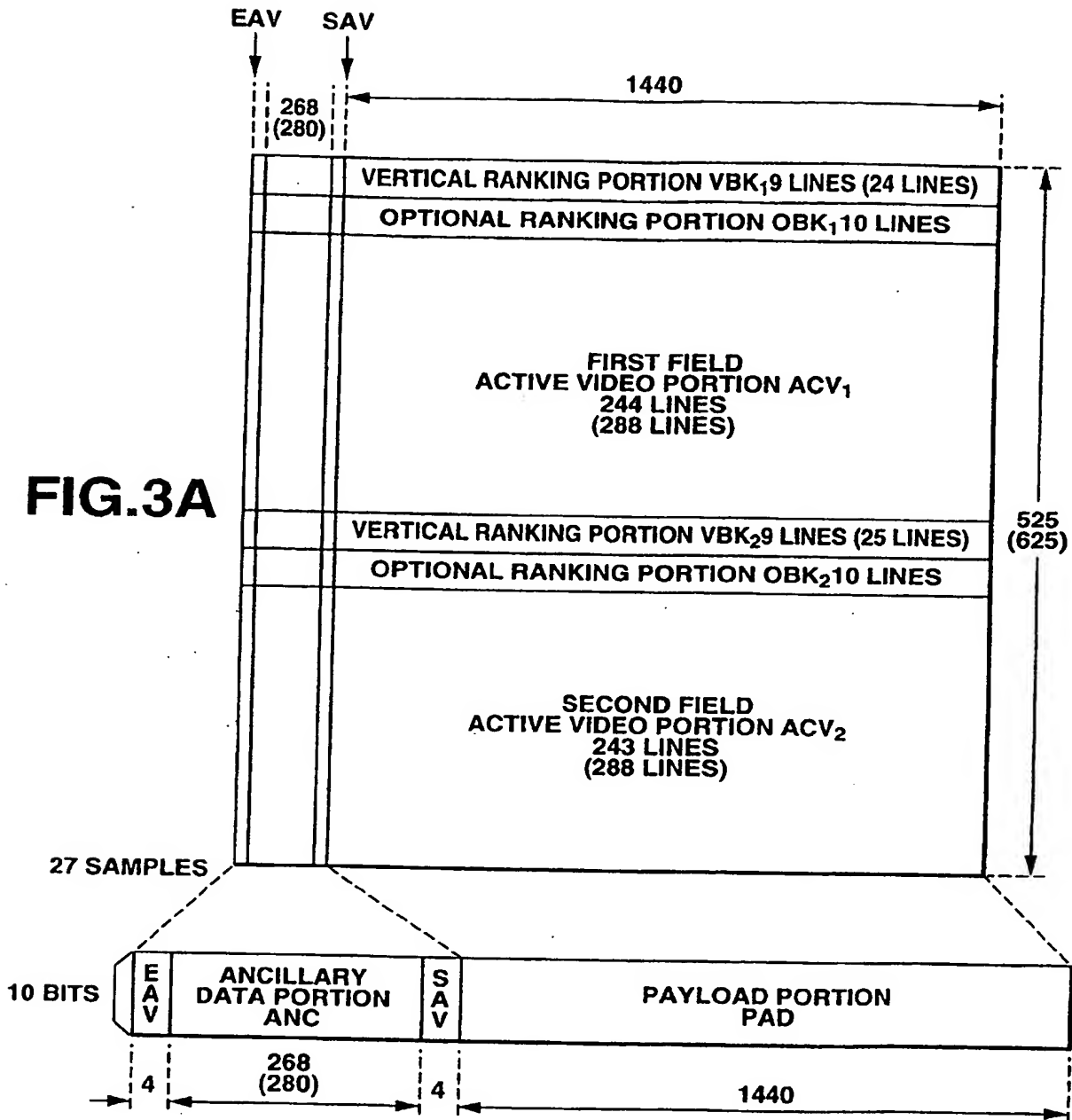
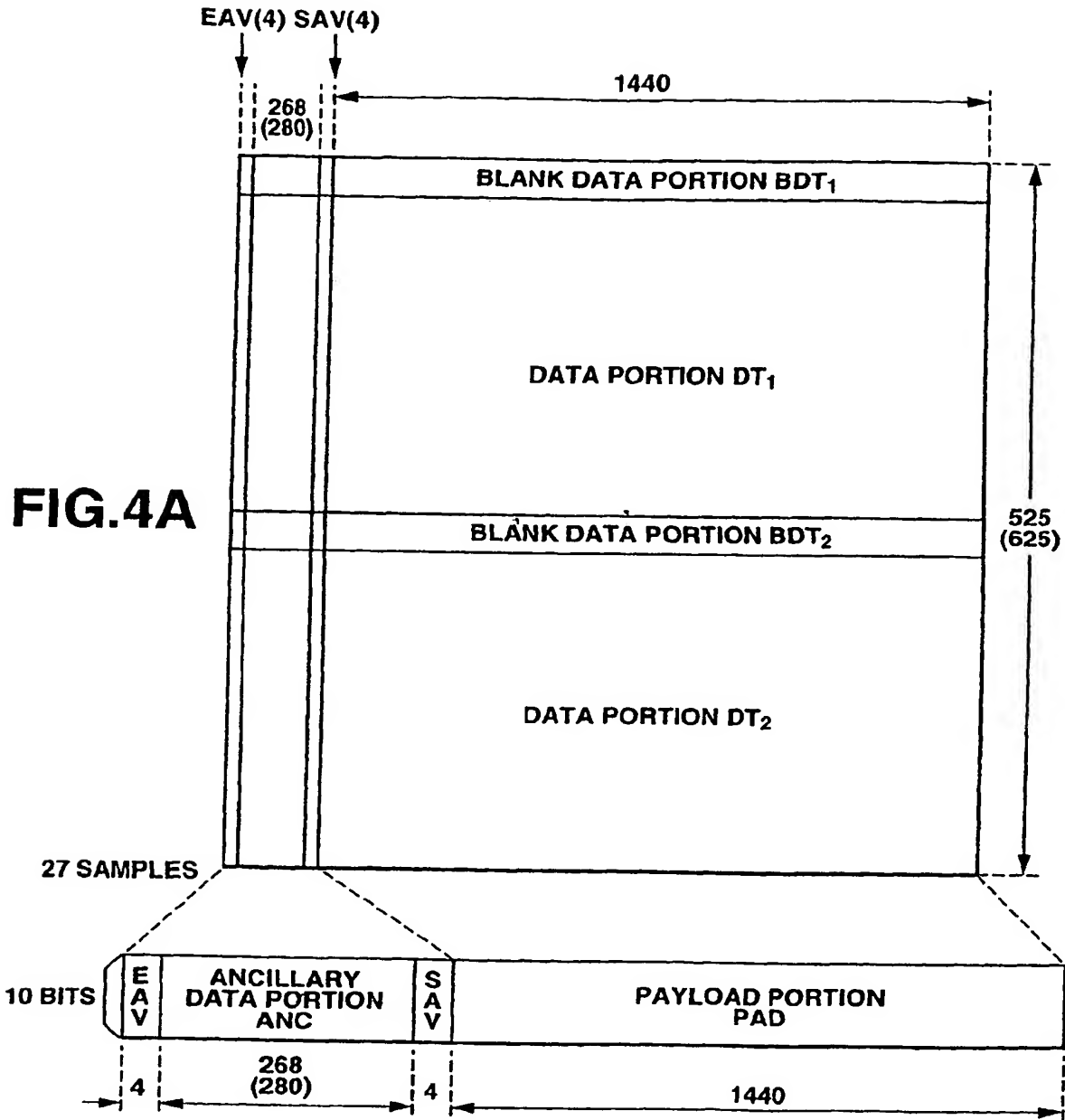


FIG.2



**FIG.3B**



**FIG.4B**

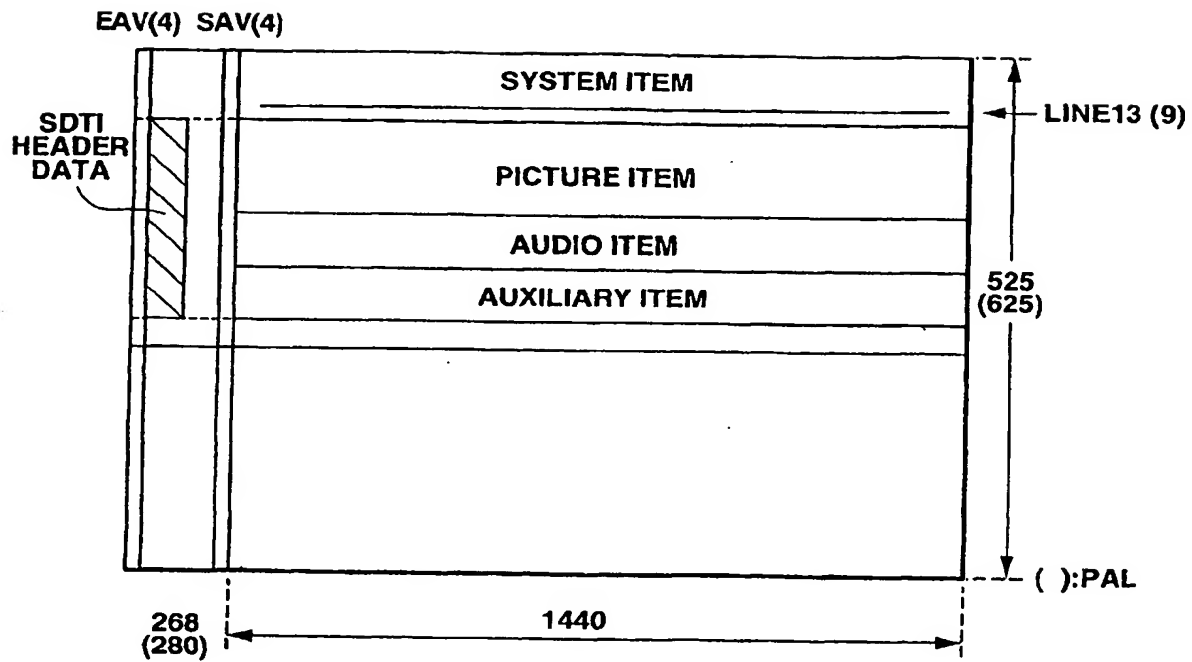


FIG.5

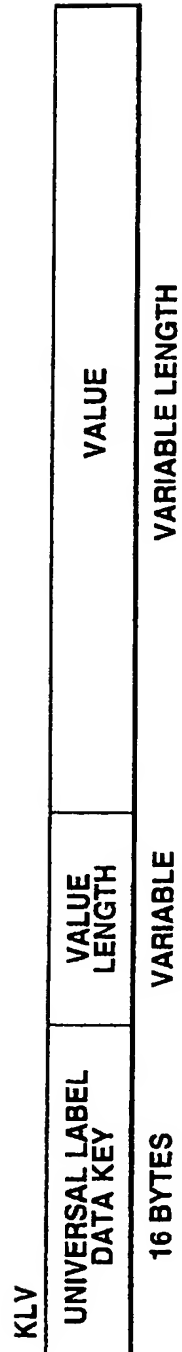


FIG.6

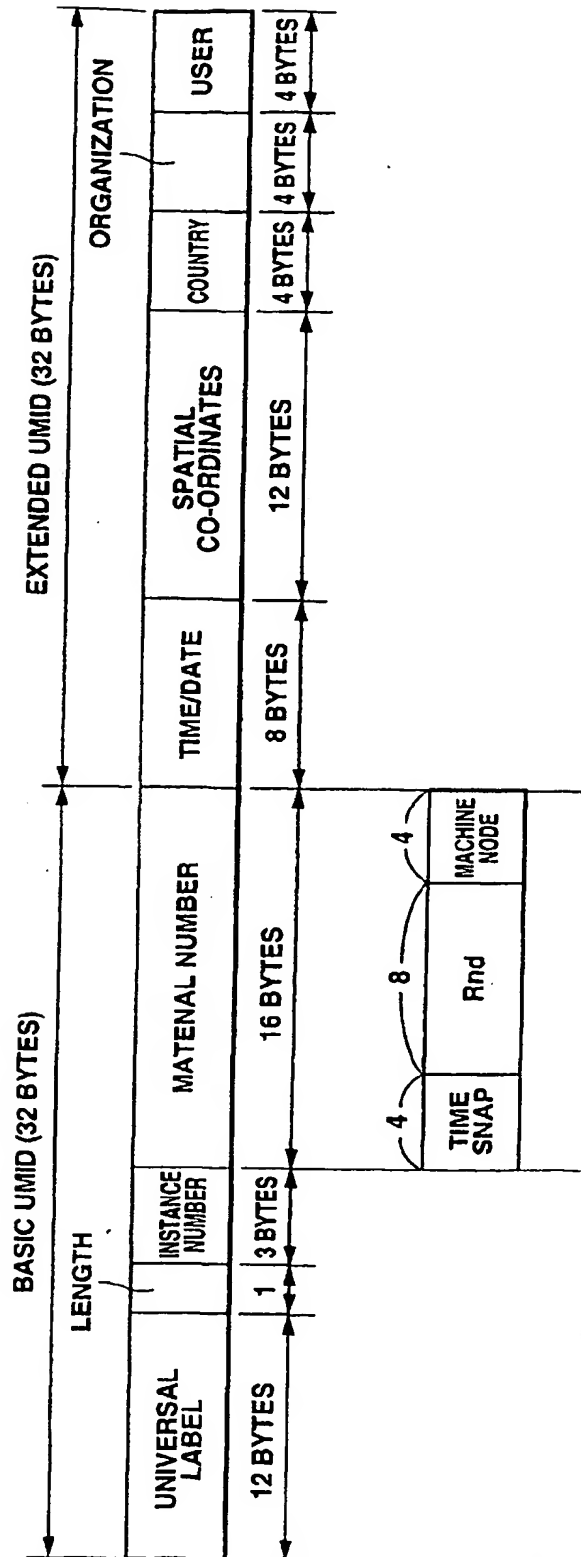


FIG.7

Field	Subfield	Field Name	Japanese Name	Data Element Definition	Type	Value Length	Value Range	Notes/Lead	Defining Document
1	01	00	00	00	00	00	00	00	00
2	01	01	00	00	00	00	00	00	00
3	01	01	01	00	00	00	00	00	00
4	01	01	02	00	00	00	00	00	00
5	01	01	03	00	00	00	00	00	00
6	01	01	04	00	00	00	00	00	00
7	01	01	10	00	00	00	00	00	00
8	01	01	10	01	00	00	00	00	00
9	01	01	10	03	00	00	00	00	00
10	01	01	10	03	01	00	00	00	00
11	01	01	10	03	02	00	00	00	00
12	01	01	10	04	00	00	00	00	00
13	01	01	10	04	01	00	00	00	00
14	01	01	10	04	01	01	00	00	00
15	01	01	11	00	00	00	00	00	00
<p>Class 1 metadata is reserved for standard identifiers &amp; locations</p> <p>Unique identifiers and locations</p> <p>Unique Material Identifier for video essence. Note - the UMD has a 12 byte SMPTE label</p> <p>Unique Material Identifier for audio essence. Note - the UMD has a 12 byte SMPTE label</p> <p>Unique Material Identifier for data essence. Note - the UMD has a 12 byte SMPTE label</p> <p>Unique Material Identifier for system information. Note - the UMD has a 12 byte SMPTE label</p> <p>Internationally recognised identifiers registered by broadcasting organisations</p> <p>The broadcasting organisation concerned</p> <p>Unique programme identifiers</p> <p>Unique Program Identifier (AISC 407)</p> <p>Unique Programme Number (TVN)</p> <p>Physical media identifiers</p> <p>Tape identifiers</p> <p>EBU International Broadcast Type Number</p> <p>Unique Identifier (ISAN)</p>									

FIG.8



—

**FIG. 9**



**FIG. 10**



L5	SMPTE label				Data Element Name	Japanese Names	Data Element Definition	C S A	Type	Value Length	Value Range	Node/Leaf	Defining Document
	1	2	3	4									
100	01	10	02	01	00	00	AGICOA ID	REF	As per standard			Leaf	
101	02	00	00	00	00	00	Class 2 Administration	REF				Node	
102	02	01	00	00	00	00	Supplier	REF				Node	
103	02	01	01	00	00	00	Supplying Organisation	REF	ISO 7-bit char string	127 bytes max		Leaf	
104	02	01	02	00	00	00	Contract ID	REF	ISO 7-bit char string	32 chars max		Leaf	
105	02	01	03	00	00	00	Original Producer Name	REF	ISO 7-bit char string	127 bytes max		Leaf	
106	02	02	01	02	00	00	Product	REF				Node	
107	02	01	02	01	00	00	Total number of Episodes in a Series	REF	UInt6	2 bytes		Leaf	
108	02	05	00	00	00	00	Rights	REF				Node	
109	02	05	01	00	00	00	Copyright	REF				Node	
110	02	05	01	01	00	00	Evaluation of Copyright Status	REF	ISO 7-bit char string	127 bytes max		Leaf	
111	02	05	01	02	00	00	Copyright Owner	REF	ISO 7-bit char string	127 bytes max		Leaf	
112	02	05	02	00	00	00	Intellectual Property Rights	REF				Node	
113	02	05	02	01	00	00	Type of Intellectual Property Rights	REF	ISO 7-bit char string	32 bytes max		Leaf	
114	02	05	02	02	00	00	Definition of Intellectual Property Rights	REF	ISO 7-bit char string	32 bytes max		Leaf	

FIG.11

115	02	05	02	03	00	00	00	00	00	Legal personalities	Legal Representative	A person or body to whom legal responsibility can be traced	REF			Node
116	02	05	02	03	01	00	00	00	00	Right Owner	Owner	A definition of who or what entity can exercise an IP right	REF	ISO 14100 string	127 bytes max	Leaf
117	02	05	02	03	02	00	00	00	00	Right Management Authority	Entity That Manages The Rights	Entity that manages the rights for access to the material	REF	ISO 14100 string	127 bytes max	Leaf
118	02	05	02	03	03	00	00	00	00	Interested parties	Who or What Entity Has An Interest	A definition of who or what entity has an interest in the right being exercised	REF	ISO 14100 string	127 bytes max	Leaf
119	02	05	02	04	00	00	00	00	00	IP Right options	IP Ancillary Information	A definition of what options can be exercised within the framework of using an IP right	REF			Node
120	02	05	02	04	01	00	00	00	00	Maximum Number Of Usages	Maximum Number of Usages or Repeats	Maximum number of usages or repeats	REF	Unit6	2 bytes	Leaf
121	02	05	02	04	02	00	00	00	00	License options	License Options	Options for protection or removal of license	REF	ISO 14100 string	127 bytes max	Leaf
122	02	06	00	00	00	00	00	00	00	Financial information	Financial Information	Details of payments, costs, income money and other considerations	REF			Node
123	02	06	01	00	00	00	00	00	00	Currency	Currency	The currency of the transaction	REF			Type Node
124	02	06	01	01	00	00	00	00	00	Currency	Same as 124	The currency of the transaction	REF	ISO 14100 string	4 character See bytes dictionary	Leaf
125	02	06	02	00	00	00	00	00	00	Payments and costing	Payment and Costing	Payments and costing information	REF			Node
126	02	06	02	01	00	00	00	00	00	Royalty Financial information	Royalty Financial Information	Royalty payment and other information	REF	ISO 14100 string	127 bytes max	Leaf
127	02	06	03	00	00	00	00	00	00	Income	Income Information	Income information	REF			Node
128	02	06	03	01	00	00	00	00	00	Royalty Financial information	Royalty Financial Information	Royalty income and other information	REF	ISO 14100 string	127 bytes max	Leaf
129	02	07	00	00	00	00	00	00	00	Permitted Access	Permitted Access	Details of permitted access to the media product	REF			Node
130	02	07	01	00	00	00	00	00	00	Restrictions on Use	Access Level	Identifies the type or level of restriction applied to the media product	REF	ISO 14100 string	12 bytes max	Leaf
131	02	08	00	00	00	00	00	00	00	Security	Security	Content encryption/decryption information	REF			Node
132	02	08	01	00	00	00	00	00	00	System Access	Degree of Technical Access	Details of permitted access to the technical system or platform	REF			Node



## FIG.12

148	02	20	00	00	00	00	00	00	00	00	Broadcast and Repeat Statistics	Broadcast and Repeat Statistics	Business entities concerning the production	REF			Node
149	02	20	01	00	00	00	00	00	00	00	First Broadcast Flag	First Use	First broadcast of the product	REF	Boolean	1 byte	10th FALSE or FFA (TRUG)
150	02	20	02	00	00	00	00	00	00	00	Repeat number	Repeat Number	Information about the repeat status whenever a first broadcast	REF			Node
151	02	20	02	01	00	00	00	00	00	00	Current repeat number	Number of The Current Repeat	The number of the current repeat	REF	UInt16	2 bytes	Leaf
152	02	20	02	02	00	00	00	00	00	00	Previous repeat number	Number of The Previous Repeat	The number of the previous repeat	REF	UInt16	2 bytes	Leaf
153	02	20	03	00	00	00	00	00	00	00	Ratings	Ratings	Information about audience ratings and indices	REF			Node
154	02	20	03	01	00	00	00	00	00	00	Audience rating	Audience Rating	Audience rating as number of viewers	REF	UInt32	4 bytes	Leaf
155	02	20	03	02	00	00	00	00	00	00	Audience reach	Audience Reach	The audience reach of the production	REF	UInt32	4 bytes	Leaf
156	02	20	03	03	00	00	00	00	00	00	Other ratings	Other Ratings	Other ratings	REF	UInt32	4 bytes	Leaf
157	02	20	03	04	00	00	00	00	00	00	Participating parties	Participating Parties	Details of all parties contributing to or taking part in the production - staff, contributors and including those receiving Credits etc	REF			Node
158	02	20	03	05	00	00	00	00	00	00	Persons (Groups and Individuals)	Representative	Details of persons contributing to or taking part in the production	REF			Node
159	02	20	03	06	00	00	00	00	00	00	Nature of Person (Group or Individual)	Nature of Person (Group or Individuals)	Group, Individual etc	REF			Node
160	02	20	03	07	00	00	00	00	00	00	Profession	Talent, Staff, etc	Details of Performing talent (Non performing talent, Production Staff, Technical staff, Specialists etc	REF			Node
161	02	20	03	08	00	00	00	00	00	00	Contribution Status	Talent, Staff, etc	Performing talent, Non performing talent, Production Staff, Technical staff, Specialists etc	REF	ISO 7-bit char string	32 bytes max	Leaf
162	02	20	03	09	00	00	00	00	00	00	Support and Administration	Support and Administration	Details of support and administrative staff or contributors - business management, resource planning, anything etc	REF			Node
163	02	20	03	10	00	00	00	00	00	00	Support/Administration Status	Support/Administration Staff	Cataloguing staff, finance staff etc	REF	ISO 7-bit char string	32 bytes max	Leaf
164	02	20	03	11	00	00	00	00	00	00	Organisations and Public Bodies	Organisation and Public Bodies	Details of Organisations and Public Bodies contributing to or taking part in the production	REF			Node
165	02	20	03	12	00	00	00	00	00	00	Kind of Organisation or Public Body	Kind of Organisation or Public Body	United Kingdom, government department etc.	REF	ISO 7-bit char string	32 bytes max	Leaf

Line #	Subfield					Data Element Name	Japanese Names	Data Element Definition	Line #	Type	Value Length	Value Range	Mode/Leaf	Defining Document
166	02	30	02	02	00	00	Production	Details of Performing contribution, Non performing contribution, Production contribution, Technical contribution, Specimen etc	166F				Mode	
167	02	30	02	02	01	00	Fun Library	eg. Fun Library	167F	ISO 7-bit char string	32 bytes max		Leaf	
168	02	30	02	03	00	00	Support and Administration	Details of support and administrative contribution, business management, resource planning, achieving etc	168F				Mode	
169	02	30	02	03	01	00	Support/Administration Staff	eg. Banker	169F	ISO 7-bit char string	32 bytes max		Leaf	
170	02	30	05	00	00	00	Job Function Information	Information about the job function or role of participating parties	170F				Mode	
171	02	30	05	01	00	00	Job Function	The function of the person(s), organization or public body, eg. Editor, Actor	171F	ISO 7-bit char string	32 bytes max		Leaf	
172	02	30	05	02	00	00	Role	eg. Name of character played	172F	ISO 7-bit char string	32 bytes max		Leaf	
173	02	30	05	00	00	00	Contract Information	Contract information for the participating party	173F				Mode	
174	02	30	05	01	00	00	Contract Kind	Client, supplier, vendor etc	174F	ISO 7-bit char string	32 bytes max		Leaf	
175	02	30	05	02	00	00	Contract Department	Name information for a department within an organization whose contact can be made	175F	ISO 7-bit char string	32 bytes max		Leaf	
176	02	30	05	03	00	00	Person or Organization Details	The name of person(s), organization or public body	176F				Mode	
177	02	30	05	01	00	00	Person Name	Name information for persons	177F				Mode	
178	02	30	05	03	01	01	Family Name	The family name of an individual	178F	ISO 7-bit char string	32 bytes max		Leaf	
179	02	30	05	03	01	02	First Given Name	The first given name for an individual	179F	ISO 7-bit char string	32 bytes max		Leaf	
180	02	30	05	03	01	03	Second Given Name	The second given name for an individual	180F	ISO 7-bit char string	32 bytes max		Leaf	

FIG.13

181	02	30	05	03	01	04	00	00	00	00	Third Given Name	The third given name for an individual	REF	ISO 7-bit char string	12 bytes max	Leaf
182	02	30	05	03	02	00	00	00	00	00	Group Name	Name information for groups	REF			Node
183	02	30	05	03	02	01	00	00	00	00	Main Name	The main name by which the group is known	REF	ISO 7-bit char string	12 bytes max	Leaf
184	02	30	05	03	02	02	00	00	00	00	Supplementary Name	Supplementary naming information for a group	REF	ISO 7-bit char string	12 bytes max	Leaf
185	02	30	05	03	03	00	00	00	00	00	Organisation Name	Name information for organisations	REF			Node
186	02	30	05	03	03	01	00	00	00	00	Main Name	The main name by which an organisation is known	REF	ISO 7-bit char string	12 bytes max	Leaf
187	02	30	05	03	03	02	00	00	00	00	Supplementary Organisation Name	Supplementary naming information for an organisation	REF	ISO 7-bit char string	12 bytes max	Leaf
188	00	00	00	00	00	00	00	00	00	00	INTERPRETIVE	Class 3 is reserved for information on interpreting the data	REF			Node
189	03	01	00	00	00	00	00	00	00	00	Fundamental	Fundamental defining information	REF			Node
190	03	01	01	00	00	00	00	00	00	00	Countries	Defining information about Countries	REF			Node
191	03	01	01	01	00	00	00	00	00	00	ISO 3166 Country Code	ISO country codes	REF			Type Node
192	03	01	01	01	00	00	00	00	00	00	ISO 3166 Country Code	ISO country codes	REF	ISO 7-bit char	4 char max See types dictionary	Leaf
193	03	01	01	02	00	00	00	00	00	00	ISO 3166 Language Code	The code that represents a language. Defining information is an authority on domain values	REF			Type Node
194	03	01	01	02	01	00	00	00	00	00	ISO 3166 Language Code	The code that represents a language. Defining information is an authority on domain values	REF	ISO 7-bit char	4 char max See types dictionary	Leaf
195	03	01	02	00	00	00	00	00	00	00	Debit interpretations	Defining information about data interpretation	REF			Node
196	03	01	02	00	00	00	00	00	00	00	Operating system interpretations	1-byte code for definition of common operating systems	REF	Unassigned byte	1 byte	Leaf
197	03	01	03	00	00	00	00	00	00	00	Fundamental 4 Definition 2	Information about the four basic vocabularies of natural philosophy	REF			Node
198	03	01	03	01	00	00	00	00	00	00	Length	Descriptive information about length	REF			Node

100

44

214	03	02	01	02	00	00	00	00	00	Genre	Programme genre (e.g. entertainment, current affairs magazine, kids television, ...) (Code as Excl 1.4)	REFER	ISO 1-bit char string	12 bytes max	Type Node
215	03	02	01	03	00	00	00	00	00	Target Audience	Target audience (e.g. children, 17 to 22, elderly, ...)	REFER	ISO 1-bit char string	12 bytes max	Type Node
216	03	02	01	00	00	00	00	00	00	Cataloguing and Indexing	Archival analysis of the essence metadata	REFER			Node
217	03	02	01	01	00	00	00	00	00	Archival Catalogue	Audio metadata concerning the archival analysis metadata	REFER			Node
218	03	02	01	01	01	00	00	00	00	Status of The Metadata Set	The current status of the metadata set	REFER			Type Node
219	03	02	01	01	01	00	00	00	00	Status of The Metadata Set	The current status of the metadata set	REFER	ISO 1-bit char string	12 bytes max	Leaf
220	03	02	01	01	02	00	00	00	00	Cataloguing, Indexing or Thesaurus ID in Use ?	The particular Cataloguing, Indexing or Thesaurus system used	REFER	ISO 1-bit char string	12 bytes max	Type Node
221	03	02	01	01	03	00	00	00	00	Theme	The category of the Theme of the content	REFER	ISO 1-bit char string	12 bytes max	Type Node
222	03	02	01	01	03	00	00	00	00	Genre	The category of the Genre of the content	REFER	ISO 1-bit char string	12 bytes max	Type Node
223	03	02	01	03	05	00	00	00	00	Subject Code	Subject Code	REFER	ISO 1-bit char string	12 bytes max	Type Node
224	03	02	01	03	06	00	00	00	00	Keyword	Words or phrases summarizing an aspect of the data set	REFER	ISO 1-bit char string	12 bytes max	Leaf
225	03	02	01	03	07	00	00	00	00	Key Frames	References to a key frame division in the data set	REFER	ISO 1-bit char string	12 bytes max	Leaf
226	03	02	01	03	08	00	00	00	00	Key Sounds	References to a key sound in the data set	REFER	ISO 1-bit char string	12 bytes max	Leaf
227	03	02	01	03	09	00	00	00	00	Key Data	References to a key piece of data or program in the data set	REFER	ISO 1-bit char string	12 bytes max	Leaf
228	03	02	01	05	00	00	00	00	00	Technical Description	A textual characterization of the data set	REFER			Node
229	03	02	01	05	01	00	00	00	00	Abstract	A brief narrative summary of the data set	REFER	ISO 1-bit char string	1024 bytes max	Leaf
230	03	02	01	05	02	00	00	00	00	Purpose	A summary of the intentions with which the data set was developed	REFER	ISO 1-bit char string	127 bytes max	Leaf
231	03	02	01	05	03	00	00	00	00	Description	A verbal description	REFER	ISO 1-bit char string	127 bytes max	Leaf



247	03	00	00	00	00	00	00	00	00	Technical Value	Technical Value	Assessment of the technical value	ISO 781 char string	12 bytes max	Leaf
248	03	00	00	00	00	00	00	00	00	Other Values	Other Values	Assessment of other relevant qualities	ISO 781 char string	12 bytes max	Leaf
249	03	00	00	00	00	00	00	00	00	Descriptions (Machine Assigned or Compiled)	Descriptions	Descriptions (Machine Assigned or Compiled) relating to analysis of the content	ISO 781 char string	12 bytes max	Leaf
250	03	00	00	00	00	00	00	00	00	Categorisation	Categorisation	Analytical categorisation of the content	ISO 781 char string	12 bytes max	Leaf
251	03	00	00	00	00	00	00	00	00	Content Classification	Content Classification	Content classification	ISO 781 char string	12 bytes max	Leaf
252	03	00	00	00	00	00	00	00	00	Cataloguing and Indexing	Same as 217	Analytical analysis of the essence metadata	ISO 781 char string	12 bytes max	Leaf
253	03	00	00	00	00	00	00	00	00	Catalogue History	Same as 218	Audio metadata concerning the archival analysis metadata	ISO 781 char string	12 bytes max	Leaf
254	03	00	00	00	00	00	00	00	00	Status of Data Set	Same as 219	The current status of the metadata set	ISO 781 char string	12 bytes max	Leaf
255	03	00	00	00	00	00	00	00	00	Cataloguing, Indexing or Thesaurus system used	Same as 221	The particular Cataloguing, Indexing or Thesaurus system used	ISO 781 char string	12 bytes max	Leaf
256	03	00	00	00	00	00	00	00	00	Keywords	Same as 225	Words or phrases summarising an aspect of the data set	ISO 781 char string	12 bytes max	Leaf
257	03	00	00	00	00	00	00	00	00	Key Frames	Same as 226	Reference to a key frame of video in the data set	ISO 781 char string	12 bytes max	Leaf
258	03	00	00	00	00	00	00	00	00	Key Samples	Same as 227	Reference to a key sample in the data set	ISO 781 char string	12 bytes max	Leaf
259	03	00	00	00	00	00	00	00	00	Key data	Same as 228	Reference to a key piece of data or program in the data set	ISO 781 char string	12 bytes max	Leaf
260	03	00	00	00	00	00	00	00	00	Textual Description	Same as 229	A textual description of the data set	ISO 781 char string	12 bytes max	Leaf
261	03	00	00	00	00	00	00	00	00	Stratum	Same as 235	The descriptive stratum of the archival content analysis of the content	ISO 781 char string	12 bytes max	Leaf
262	03	00	00	00	00	00	00	00	00	Stratum kind	Same as 236	eg. Background, action, sound features etc	ISO 781 char string	12 bytes max	Leaf
263	04	00	00	00	00	00	00	00	00	PARAMETRIC	Class 4 Parameters	Class 4 is reserved for parametric and configuration metadata	ISO 781 char string	12 bytes max	Leaf
264	04	01	00	00	00	00	00	00	00	Video Essence Encoding Characteristics	Video Encoding Parameters	Operating characteristics of the device creating the essence	ISO 781 char string	12 bytes max	Leaf



**FIG. 16**

230	04	01	01	04	01	01	00	00	00	Total Lines per Frame	Specifies the number of lines in a full frame in the video scanning system.	REF	Unit 16	2 bytes		Leaf	
231	04	01	01	04	01	02	00	00	00	Active Lines per Frame	Specifies the total number of lines (rows) in the active portion of a frame in the video input matrix.	REF	Unit 16	2 bytes		Leaf	
232	04	01	01	04	01	03	00	00	00	Leading Lines	Specifies number of blank lines before image	REF	Unit 16	4 bytes		Leaf	W25.52
233	04	01	01	04	01	04	00	00	00	Trailing Lines	Specifies number of blank lines after image	REF	Unit 16	4 bytes		Leaf	W25.52
234	04	01	01	04	02	00	00	00	00	Horizontal and Vertical Dimensions	Specifies information about the horizontal and vertical dimensions of an image.	REF				Node	
235	04	01	01	04	02	01	01	00	00	Aspect Ratio	Specifies the horizontal to vertical aspect ratio of the image as it is to be displayed.	REF				Type Node	
236	04	01	01	04	02	01	01	01	01	Image Aspect Ratio	Specifies the image aspect ratio	REF	Unsigned Char	1 byte		Leaf	
237	04	01	01	04	02	01	01	01	02	Same as 287	Specifies the image aspect ratio	REF	Referral	8 bytes		Leaf	W25.52
238	04	01	01	04	02	01	02	00	00	Capture Aspect Ratio	Specifies the horizontal to vertical aspect ratio of the image captured at the sensor.	REF	Unsigned Char	1 byte	See types dictionary	Leaf	
239	04	01	01	04	02	02	00	00	00	Stored Height	Specifies height of stored image	REF	Unit 16	4 bytes		Leaf	W25.52
240	04	01	01	04	02	03	00	00	00	Stored Width	Specifies width of stored image	REF	Unit 16	4 bytes		Leaf	W25.52
241	04	01	01	04	02	04	00	00	00	Sampled Height	Specifies height of sampled image	REF	Unit 16	4 bytes		Leaf	W25.52
242	04	01	01	04	02	05	00	00	00	Sampled Width	Specifies width of sampled image	REF	Unit 16	4 bytes		Leaf	W25.52
243	04	01	01	04	02	06	00	00	00	Sampled X Offset	Specifies X offset of sampled image	REF	Unit 16	4 bytes		Leaf	W25.52
244	04	01	01	04	02	07	00	00	00	Sampled Y Offset	Specifies Y offset of sampled image	REF	Unit 16	4 bytes		Leaf	W25.52
245	04	01	01	04	02	08	00	00	00	Display Height	Specifies height of displayed image	REF	Unit 16	4 bytes		Leaf	W25.52
246	04	01	01	04	02	09	00	00	00	Display Width	Specifies width of displayed image	REF	Unit 16	4 bytes		Leaf	W25.52
247	04	01	01	04	02	0A	00	00	00	Display X Offset	Specifies X offset of displayed image	REF	Unit 16	4 bytes		Leaf	W25.52

Line #	Label	Japanese Name	Data Element Name	Data Element Definition	Type	Value Length	Value Range	Handle/Leaf	Defining Document
235	04 01 01 04 02 05 00 00	Display Y Offset	Display Y Offset	Specifies Y offset of displayed image	REF	4 bytes		Leaf	WVS.52
239	04 01 01 05 00 00 00 00	Video Coding Characteristics	Video Coding Characteristics	Information about the original analogue coding of the essence	REF			Node	
300	04 01 01 05 01 00 00 00	Analogue Video Characteristics	Analogue Video Characteristics	PAL, NTSC, etc	REF	4 character	See types dictionary	Leaf	
301	04 01 01 05 03 00 00 00	Luminance Sample Rate	Luminance Sample Rate	This luminance sample rate	REF	1 byte	See types dictionary	Leaf	
302	04 01 01 05 04 00 00 00	Active Samples Per Line	Active Samples Per Line	Total number of samples (columns) in the active portion of a line in the video pixel matrix.	REF	2 bytes		Leaf	
303	04 01 01 05 05 00 00 00	Total Samples Per Line	Total Samples Per Line	Specifies the number of samples in a full line in the video pixel matrix.	REF	2 bytes		Leaf	
304	04 01 01 05 06 00 00 00	Bits Per Pixel	Bits Per Pixel	The maximum number of significant bits for the value in each band of each pixel without compression.	REF	1 byte		Leaf	
305	04 01 01 05 07 00 00 00	Sampling Information	Sampling Information	Description of the component sampling	REF			Node	
306	04 01 01 05 07 01 00 00	Sampling Hierarchy Code	Sampling Hierarchy Code	A code that specifies the component sampling hierarchy for the video pixel matrix.	REF	4 character	See types dictionary	Leaf	
307	04 01 01 05 07 02 00 00	Horizontal Subsampling	Horizontal Subsampling	Specifies ratio of luminance subsampling to chrominance subsampling in horizontal direction	REF	4 bytes		Leaf	WVS.52
308	04 01 01 05 07 03 00 00	Color Siting ?	Color Siting ?	Specifies how to compute subsampled chrominance values	REF	2 bytes		Leaf	WVS.52
309	04 01 01 05 08 00 00 00	Rounding Method Code	Rounding Method Code	Specifies the rounding method that has been applied to the digital samples of the video signal.	REF	4 character	See types dictionary	Leaf	
310	04 01 01 05 09 00 00 00	Filtering Code	Filtering Code	Specifies the spatial filtering that has been applied to the digital samples of the video signal.	REF	4 character	See types dictionary	Leaf	
311	04 01 01 05 10 00 00 00	Sampling Structure	Sampling Structure	Description of the sampling structure of the video scanning system, such as Progressive and single frame.	REF			Node	
312	04 01 01 05 10 01 00 00	Sampling Structure Code	Sampling Structure Code	A code that specifies the analogue or digital sampling structure for the video scanning system. Eg Progressive	REF	1 byte	See types dictionary	Leaf	

FIG.17

313	04	01	01	03	10	02	00	00	00	Frame Layout		Specifies frame layout (interlaced, single frame, full frame, etc.)	REF	Layout type	2 bytes	Leaf	V25.52
314	04	01	01	05	0A	00	00	00	00	Line Field Information		Specifies luma/chroma scanned lines and start fields	REF	Array of V25.52	8 bytes	Leaf	V25.52
315	04	01	01	05	0B	00	00	00	00	Signal Transparency		Specifies whether 0 or the maximum value is transparent	REF	Int32	4 bytes	Leaf	V25.52
316	04	01	01	05	0C	00	00	00	00	Component Width		Specifies component width in bits	REF	Int32	4 bytes	Leaf	V25.52
317	04	01	01	05	0D	00	00	00	00	Black Reference Level		Specifies digital luminance associated with black	REF	Unit32	4 bytes	Leaf	V25.52
318	04	01	01	05	0E	00	00	00	00	White Reference Level		Specifies digital luminance associated with white	REF	Unit32	4 bytes	Leaf	V25.52
319	04	01	01	05	0F	00	00	00	00	Color Range		Specifies range of allowable chrominance values	REF	Unit32	4 bytes	Leaf	V25.52
320	04	01	01	05	11	00	00	00	00	Order of Color Components		Specifies order of components	REF	RGBALayout		Leaf	V25.52
321	04	01	01	05	12	00	00	00	00	Color Palette		Specifies palette containing colors	REF	Data/Data	variable	Leaf	V25.52
322	04	01	01	05	13	00	00	00	00	Palette Layout ?		Specifies layout of components in palette	REF	RGBALayout		Leaf	V25.52
323	04	01	01	05	14	00	00	00	00	Number of Same Data in Horizontal Direction of Original Signal		Specifies if the data has the same number of runs in step throughout	REF	Boolean	1 byte	Leaf	V25.52
324	04	01	01	05	15	00	00	00	00	Number of Stored Contiguous Bytes		Specifies if the data is stored in contiguous bytes	REF	Boolean	1 byte	Leaf	V25.52
325	04	01	01	05	16	00	00	00	00	JPEG Table		Specifies JPEG table used to compress video	REF	JPEGtableIDType		Leaf	V25.52
326	04	01	01	05	17	00	00	00	00	Till Parameters		Contains the TIFF format summary data	REF	Data/value	variable	Leaf	V25.52
327	04	01	01	05	18	00	00	00	00	MPEG Coding Characteristics		Information about MPEG video coding	REF				
328	04	01	01	05	1A	02	00	00	00	MPEG-2 Coding Characteristics		Information about MPEG video coding	REF				
329	04	01	01	05	1B	02	01	00	00	Field Frame Type Code		Identifies the field or frame type of the source video image by video derived from compressed sources. E.g. I B or P	REF	ISO Field code	1 char	I, B or P	
330	04	01	01	02	00	00	00	00	00	Film Parameters		Information about film	REF				Note

Line	Label	Code Element Name	Japanese Names	Data Element Definition	Type	Value Length	Value Range	Notes/Ref	Defining Document
331	04 01 02 01 00 00 00 00 00 00	Film to Video Parameters	Film Video Parameters	Information about transferring film to video	REF			Note	
332	04 01 02 01 01 00 00 00 00 00	Field Dominance	Field Dominance ?	Field one dominant (true)	REF	1 byte	00b (FALSE) or FFb (TRUE)	Leaf	
333	04 01 02 01 02 00 00 00 00 00	Frame phase sequence	Frame Phase Sequence	eg. A frame, B frame, C frame	REF	1 byte	Modulo 7 count to 255 max	Leaf	
334	04 01 02 02 00 00 00 00 00 00	Film Pulldown characteristics	Film Pulldown Characteristics	Film transfer pulldown characteristics	REF			Note	
335	04 01 02 02 01 00 00 00 00 00	Pulldown sequence	Pulldown Sequence	eg. 32, 1:1	REF	1 byte	See types dictionary	Leaf	
336	04 01 02 02 02 00 00 00 00 00	Pulldown phase	Pulldown Phase	Redundant field in a 32 pulldown sequence	REF	1 byte	00b (FALSE) or FFb (TRUE)	Leaf	
337	04 01 02 02 03 00 00 00 00 00	Pulldown kind	Pulldown Kind	Specifies kind of pulldown	REF	2 bytes		Leaf	W25.52
338	04 01 02 02 04 00 00 00 00 00	Pulldown direction	Pulldown Direction	Specifies direction of pulldown	REF	2 bytes		Leaf	W25.52
339	04 01 02 02 05 00 00 00 00 00	Phase/frame	Pulldown Phase	Specifies pulldown phase	REF	2 bytes		Leaf	W25.52
340	04 01 02 03 00 00 00 00 00 00	Film frame rates	Film Frame Rates	Frames per second film frame rate	REF			Note	
341	04 01 02 03 01 00 00 00 00 00	Capture film frame rate	24.00 fps	eg. 24.00 fps	REF	1 byte	See types dictionary	Leaf	
342	04 01 02 03 02 00 00 00 00 00	Transfer film frame rate	23.976 fps	eg. 23.976 fps	REF	1 byte	See types dictionary	Leaf	
343	04 01 02 03 03 00 00 00 00 00	Film descriptor frame rate	Specifies frame rate	Specifies frame rate	REF	4 bytes		Leaf	W25.52
344	04 01 02 04 00 00 00 00 00 00	Film characteristics	Film Characteristics	Frames per second film frame rate	REF			Note	
345	04 01 02 04 01 00 00 00 00 00	Film exposure aperture	Film Aperture Characteristics	eg. aperture 18, secondary	REF	32 bytes max		Leaf	

FIG.18

345	04	01	02	04	02	00	00	00	00	Film Color Process	Film Color Process	The film recording process used. Eg. Pathé Color, Hand Colouring, Berthoin (Kaleidoscope), Lenticular Process	REF	ISO 7418 char string	32 bytes max	Leaf
347	04	01	02	04	03	00	00	00	00	Code Format	Edge Code Format	Specifies the edge code format	REF	Edge type	2 bytes	Leaf
348	04	01	02	04	04	00	00	00	00	Header	Header Text	Specifies the header text on the film	REF	Unicode value	Variable	Leaf
349	04	01	03	00	00	00	00	00	00	Video and Film test parameters	Video and Film Test Parameters	Test information from the original recording	REF			Node
350	04	01	03	01	00	00	00	00	00	Video test parameters	Video Test Parameters	Video information from the original recording	REF			Node
351	04	01	03	01	01	00	00	00	00	Test parameter	Test Parameter	ISO 7418 Part 1, Maximum BER Tolerance Level, Subjective Quality Bandwidth, Subjective Quality Parameter, Subjective Quality Information, Temporal Quality Information, Weighted Quality Parameter	REF	ISO 7418 char string	32 bytes max	Leaf
352	04	01	03	01	02	00	00	00	00	Test Result (real)	Test Result (Real)	The result from the specified test	REF	Floating Point	4 bytes	Leaf
353	04	01	03	01	03	00	00	00	00	Test Result (integer)	Test Result (Integer)	The result from the specified test	REF	Integer	4 bytes	Leaf
354	04	01	03	02	00	00	00	00	00	Film test parameters	Film Test Parameters	Film test information from the original recording	REF			Node
355	04	01	03	02	01	00	00	00	00	Test parameter	Test Parameter	ISO 7418 Part 1, Maximum BER Tolerance Level, Subjective Quality Bandwidth, Subjective Quality Parameter, Subjective Quality Information, Temporal Quality Information, Weighted Quality Parameter	REF	ISO 7418 char string	32 bytes max	Leaf
356	04	01	03	02	02	00	00	00	00	Test Result (real)	Test Result (Real)	The result from the specified test	REF	Floating Point	4 bytes	Leaf
357	04	01	03	02	03	00	00	00	00	Test Result (integer)	Test Result (Integer)	The result from the specified test	REF	SUBSET	4 bytes	Leaf
358	04	01	04	00	00	00	00	00	00	Video digital storage alignment	Video Digital Storage Alignment		REF			Node
359	04	01	04	01	00	00	00	00	00	Frame alignment factor	Buffer Size When Storing Frames	Specifies buffer size alignment when storing frames	REF	Integer	4 bytes	Leaf
360	04	01	04	02	00	00	00	00	00	Characteristics of film	Bytes of Fill Before Start of Field	Specifies bytes of fill before start of field	REF	Integer	4 bytes	Leaf
361	04	01	04	03	00	00	00	00	00	Characteristics of film	Bytes of Fill After End of Field	Specifies bytes of fill after end of field	REF	Integer	4 bytes	Leaf
362	04	01	04	04	00	00	00	00	00	Padding bits	Padding Bits	Specifies the number of bits to pad each field	REF	Integer	2 bytes	Leaf
363	04	02	00	00	00	00	00	00	00	Audio Essence Encoding Characteristics	Characteristics of Audio Signal Device	Operating characteristics of the device encoding the essence	REF			Node

Line #	SN/PT & Label				Data Element Name	Japanese Names	Data Element Definition	List #	Type	Value Length	Value Range	Mod/Leaf	Defining Document
	01	02	03	04									
354	04	02	01	00	00	Audio Fundamental Characteristics	Fundamental info characteristics	REFER				Node	
355	04	02	01	00	00	Audio Source Device	Indicates the type of the audio source	ISO 781char string		32 bytes max		Leaf	
356	04	02	01	00	00	Fundamental audio limitation	number of recording channels used, analogue or digital recording device, analogue or digital mixing console	REFER				Node	
357	04	02	01	00	00	Audio Channel Division	mono, Dual mono, Stereo A+B, Stereo M+S, Dolby surround, MPEG DOLBY etc	REFER	Uniqueness Class	1 byte	See types dictionary	Leaf	
358	04	02	01	00	00	Audio Filtering Characteristics	eg. Acoustic, etc etc	REFER	ISO 781char string	32 bytes max		Leaf	
359	04	02	01	00	00	Audio Reference Level	Number of (Din or DIN)	REFER	Unit	1 byte		Leaf	
370	04	02	01	00	00	Number of audio channels in mix	The number of audio channels in the mix	REFER				Node	
371	04	02	01	00	00	Number of Mono Channels	The number of mono channels in the mix	REFER	Unit	1 byte	1 to 255	Leaf	
372	04	02	01	00	00	Number of Stereo Channels	The number of stereo channels in the mix	REFER	Unit	1 byte	1 to 255	Leaf	
373	04	02	01	00	00	Physical Track Number	Identifies the physical track associated with the disc	REFER	Unit	4 bytes		Leaf	W25.52
374	04	02	01	00	00	Film sound source	Indicates the film sound source	REFER				Node	
375	04	02	01	00	00	Optical track	The kind of optical track from which the sound was recovered	REFER	ISO 781char string	32 bytes max		Leaf	
376	04	02	01	00	00	Magnetic track	The kind of magnetic track from which the sound was recovered	REFER	ISO 781char string	32 bytes max		Leaf	
377	04	02	01	00	00	Analogue Audio Characteristics	Information about the original analogue coding of the source	REFER				Node	
378	04	02	01	00	00	Analogue system	Ref. Dolby-A etc	REFER	ISO 781char string	32 bytes max		Leaf	

FIG.19

DCID: <EP



SWPTE field								Japanese Name	Data Element Definition	Unit	Value Length	Value Range	Model/Leaf	Defining Document	
Line #	0	1	2	3	4	5	6								
397	04	03	01	00	00	00	00	Fundamental Characteristics	Fundamental Data characteristics	REFER			Node		
398	04	03	01	01	00	00	00	Analogue Data Essence Coding Characteristics	Information about the original analogue coding of the data essence	REFER			Node		
399	04	03	01	01	01	00	00	Analogue Data Coding	e.g. Teletext	REFER ISO 7418 bit	4 char max	See types dictionary	Leaf		
400	04	03	02	00	00	00	00	Digital Data Coding Characteristics	Information about the data essence digital coding	REFER			Node		
401	04	03	03	00	00	00	00	Data From The Original Recording	Data test parameters from the original recording	REFER			Node		
402	04	04	00	00	00	00	00	Melodrama Device Characteristics	Operating characteristics of the device creating the melodrama	REFER			Node		
403	04	04	01	00	00	00	00	Melodrama Fundamental Characteristics	Fundamental Melodrama characteristics	REFER			Node		
404	04	04	01	01	00	00	00	Timescale Characteristics	Characteristics of timescale melodrama	REFER			Node		
405	04	04	01	01	01	00	00	Time Code Kind	e.g. Dropframe, non drop frame, EBU 300M, 12M etc	REFER			Node		
406	04	04	01	01	01	01	00	Timecode Kind	Timecode Kind expressed as a ISO 7418 string	REFER ISO 7418 char	4 char max	See types dictionary	Leaf		
407	04	04	01	01	01	02	00	Drop Frame	Specifies whether timecode is drop frame	REFER	Boolean		Leaf	NDS.52	
408	04	04	01	01	01	03	00	Source Type	Specifies whether timecode is LTC or VTC	REFER	TCSOURCE	2 bytes	Leaf	NDS.52	
409	04	04	01	01	02	00	00	Timecode Timebase	e.g. 24, 25, 30, 60, 48	REFER			Type Note		
410	04	04	01	01	02	01	00	Timecode Timebase	Same as 410	REFER	Unit8	1 byte	See types dictionary	Leaf	
411	04	04	01	01	02	00	00	FPS	Specifies frames per second	REFER	Unit8	2 bytes	Leaf	NDS.52	

**FIG. 20**

1187476A1 | >

Line #	SMPTE Label										Data Element Name	Japanese Names	Data Element Definition	Unit	Type	Value Length	Value Range	Model/Lead	Outgoing Document
430	04	06	01	00	00	00	00	00	00	00	General Essence Encoding Characteristics	General Essence Encoding Characteristics	Characteristics that apply to more than one type of essence	REF			Note		
431	04	06	01	01	00	00	00	00	00	00	Sample Rate	Sampling Rate	Specifies the sample rate of essence data	REF	Referral	8 bytes	Lead	W25.52	
432	04	06	01	02	00	00	00	00	00	00	Length	Length	Specifies the number of samples of essence data	REF	Length	8 bytes	Lead	W25.52	
433	04	06	02	00	00	00	00	00	00	00	Container encoding Characteristics	Container Encoding Characteristics	Characteristics that apply to the container of the metadata or essence	REF			Note		
434	04	06	02	01	00	00	00	00	00	00	Byte Order	Byte Order	Specifies the byte order of the metadata	REF	Int16	2 bytes	Lead		
435	04	07	00	00	00	00	00	00	00	00	Storage Medium parameters	Storage Medium Information	Characteristics that describe the physical media such as cartridge size	REF			Note		
436	04	07	01	00	00	00	00	00	00	00	Tape cartridge format	Tape Cartridge Format		REF			Note		
437	04	07	01	01	00	00	00	00	00	00	Video tape gauge and format	Video tape Gauge	The gauge and format of the videotape eg. Betamax SP, Hi8V, Hi8V 2UP	REF	ISO 14400 character string	32 bytes max	Lead		
438	04	07	01	02	00	00	00	00	00	00	Frame factor	Size of Tape	Specifies the physical size of tape	REF	Tape description	2 bytes	Lead	W25.52	
439	04	07	01	03	00	00	00	00	00	00	Video signal	Signal Form	Specifies whether the tape is NTSC, PAL, or SECAM	REF	Manufacture type	2 bytes	Lead	W25.52	
440	04	07	01	04	00	00	00	00	00	00	Tape format	Tape Format	Describes the format of the tape	REF	Manufacture type	2 bytes	Lead	W25.52	
441	04	07	01	05	00	00	00	00	00	00	Length	Recording Time	Specifies the tape capacity in minutes	REF	Length	8 bytes	Lead	W25.52	
442	04	07	01	06	00	00	00	00	00	00	Tape description, Manufacturer ID	Tape Manufacturer	Specifies the SMPTE label on AUDIO and identifies the manufacturer	REF	Unicode string	variable	Lead	W25.52	
443	04	07	01	07	00	00	00	00	00	00	Model	Tape Model Number	Specifies the tape model number	REF	Unicode string	variable	Lead	W25.52	
444	04	07	02	00	00	00	00	00	00	00	Disc recorder parameters	Disc Recorder Information	Information about the recorder disc	REF			Note		

445	04	07	02	01	00	00	00	00	00	00	Disc Kind	The kind and format of the disc eg. Recordable DVD, CD-Rom	REF	ISO Patching string	12 bytes max	Leaf
446	04	07	03	00	00	00	00	00	00	00	Film Medium Parameters	Information about the physical film media	REF			Node
447	04	07	03	01	00	00	00	00	00	00	Film Stock Manufacturer	eg Kodak, Ilford	REF	ISO Patching string	32 bytes max	Leaf
448	04	07	03	02	00	00	00	00	00	00	Film Stock Type	eg S17	REF	ISO Patching string	32 bytes max	Leaf
449	04	07	03	03	00	00	00	00	00	00	Perforations/Performance	Specifies number of perforations per frame (Pulsis 3 or 4)	REF	ISO Patching string	16 bytes	Leaf
450	04	07	03	04	00	00	00	00	00	00	Film Kind	Specifies the film type	REF	Final type	32 bytes	Leaf
451	04	07	03	05	00	00	00	00	00	00	Film Format	Identifies kind of film stock	REF	Final type	32 bytes	Leaf
452	04	07	03	06	00	00	00	00	00	00	Film Aspect Ratio	Specifies image aspect ratio for film	REF	Rational	8 bytes	Leaf
453	04	07	03	07	00	00	00	00	00	00	Manufacturer	Specifies manufacturer of film stock	REF	Unicode String	variable	Leaf
454	04	07	03	08	00	00	00	00	00	00	Model	Specifies film model numbers	REF	Unicode String	variable	Leaf
455	04	07	03	09	00	00	00	00	00	00	Film Gauge	The gauge and format of the film eg 70mm Neg, Bar Viewscope 48 mm	REF	ISO Patching string	32 bytes max	Leaf
456	04	07	03	10	00	00	00	00	00	00	(Object Characteristics Placeholder)		REF			Node
457	04	10	00	00	00	00	00	00	00	00	Device Characteristics	Information about the devices used	REF			Node
458	04	10	01	00	00	00	00	00	00	00	Camera Characteristics	Information about camera devices	REF			Node
459	04	10	01	01	00	00	00	00	00	00	Optical Characteristics	Information about camera optics	REF			Node
460	04	10	01	01	01	00	00	00	00	00	Focal Length	Focal length of the lens of film of collection	REF	Packing Pixel	4 bytes	Leaf
461	04	10	01	01	01	00	00	00	00	00	Sensor Size	The size of the sensor - eg 1/2", 2/3" etc	REF	ISO Patching string	4 character Saa type delivery	Leaf
462	04	10	01	01	02	00	00	00	00	00	Lens Aperture	Aperture of the lens at the time of collection	REF	Packing Pixel	4 bytes	Leaf

—

60

1187476A1 1 2

1. *Chlorophyll a* (Chl *a*)  
 2. *Chlorophyll b* (Chl *b*)  
 3. *Chlorophyll c* (Chl *c*)  
 4. *Chlorophyll d* (Chl *d*)  
 5. *Chlorophyll e* (Chl *e*)

62

S#	OS	20	02	00	00	00	00	00	00	Audio Processing	Audio Modification	Enhancement or modification to the audio essence	REF		Node
S12	05	20	02	01	00	00	00	00	00	Enhancement or Modification Description	Description of How Audio Content Was Modified	Description of how audio content was modified.	REF	ISO 781 char string	Leaf
S13	05	20	02	02	00	00	00	00	00	Audio processor settings (Device specific)	Setting of Audio Device	The settings of a specific device in the system	REF		Node
S14	05	20	02	02	01	00	00	00	00	Device kind	Device Kind	Specific description for a device - eg The Compressor, limiter, etc	REF	ISO 781 char max	Leaf
S15	05	20	02	02	02	00	00	00	00	Device parameter	Device Parameter	Specific parameter for the specified device eg Attack, gating	REF	ISO 781 char max	Leaf
S16	05	20	02	02	03	00	00	00	00	Device parameter setting	Device Parameter Setting	The setting of the specific parameter for the specified device	REF	ISO 781 char max	Leaf
S17	05	20	03	00	00	00	00	00	00	Data Processing	Data Processing	Enhancement or modification to the data essence	REF		Node
S18	05	20	03	01	00	00	00	00	00	Enhancement or Modification Description	Description of How Audio Content Was Modified	Description of how data content was modified.	REF	ISO 781 char max	Leaf
S19	05	20	02	00	00	00	00	00	00	Data processor settings (Device-specific)	Device Setting	The settings of a specific device in the system	REF		Node
S20	05	20	02	01	00	00	00	00	00	Device kind	Device Kind	Specific description for a device	REF	ISO 781 char max	Leaf
S21	05	20	02	02	00	00	00	00	00	Device parameter	Device Parameter	Specific parameter for the specified device	REF	ISO 781 char max	Leaf
S22	05	20	02	03	00	00	00	00	00	Device parameter setting	Device Parameter Setting	The setting of the specific parameter for the specified device	REF	ISO 781 char max	Leaf
S23	05	20	10	00	00	00	00	00	00	Editing Information	Editing Information	Information about alterations to the original image stream.	REF		Node
S24	05	20	10	01	00	00	00	00	00	Editing version information	Editing Version Information		REF		Node
S25	05	20	10	01	01	00	00	00	00	Version	Version of the Format	Specifies the version of the file format	REF	Version type	Leaf
S26	05	20	10	02	00	00	00	00	00	Editing details	Editing Details		REF		Node
S27	05	20	10	02	01	00	00	00	00	Relating Scape	Content of Change	Specifies relative scope	REF		Node
S28	05	20	10	02	02	00	00	00	00	Redefined	Change Slot	Specifies delta scope	REF	UnitID	Leaf
													REF	UnitID	Leaf



LINE #	SHUTE Label	Data Element Name	Japanese Name	Data Element Definition	Type	Value Length	Value Range	Model/Ref	Defining Document
527	05 20 10 02 03 00 00	SourceMidiShld	Source Signal Mdb	Specifies edit mode	Unit82	4 bytes		Leaf	W25.52
530	05 20 10 02 05 00 00	Default Fade Type	Default Fade Type	Specifies the default fade type for audio edit cuts	FadeType	2 bytes		Leaf	W25.52
531	05 20 10 03 00 00 00	Editing matrix information	Editing Matrix Information					Node	
532	05 20 10 03 01 00 00	MacSpeed	Editing Matrix Type	Specifies matrix as a rectangle	Rectangle	32 bytes		Leaf	W25.52
533	05 20 10 04 00 00 00	Editing event information	Editing Event Information					Node	
534	05 20 10 04 01 00 00	Event Comment	Comment	Describes event	Unicode String	variable		Leaf	W25.52
535	05 20 10 04 02 00 00	ActiveSub	Event On/Off	Specifies whether the event turns device on or off	Boolean	1 byte		Leaf	W25.52
536	05 20 10 05 00 00 00	Editing effect information	Editing Effect Information					Node	
537	05 20 10 05 01 00 00	FadeInType	Type of Audio Fade In	Specifies type of audio fade in	FadeType	2 bytes		Leaf	W25.52
538	05 20 10 05 02 00 00	FadeOutType	Type of Audio Fade Out	Specifies type of audio fade out	FadeType	2 bytes		Leaf	W25.52
539	05 20 10 05 03 01 00	Constant Value	Constant Point	Specifies a value at specified time	Data Value	variable		Leaf	W25.52
540	05 20 10 05 04 02 00	Constant/Value Value	Constant Value	Specifies a constant value	Data Value	variable		Leaf	W25.52
541	05 20 10 05 05 00 00	EditHalt	Hints	Provides hints used when control points are edited	EditHintType	2 bytes		Leaf	W25.52
542	05 20 10 05 06 00 00	IsTimeLap	Transient Information	Identifies time-lapping effects	Boolean	1 byte		Leaf	W25.52
543	05 20 10 06 07 00 00	Category	Category Information	Identifies category of operation (effects, 3D transitions, etc.)	OpCategories	variable		Leaf	W25.52

FIG.24



Line #	SUITE label				Data Element Name				Japanese Names	Data Element Definition	Unit	Type	Value Length	Value Range	Model/Leaf	Defining Document
542	06	01	01	02	00	00	00	00	Metadata to Essence	The relationship between metadata and essence	REF				Node	
543	06	01	01	03	00	00	00	00	Metadata to Metadata	The relationship value in terms of Parent of, Child of,	REF				Node	
544	06	01	01	04	00	00	00	00	Object to Object	The relationship value in terms of Parent of, Child of, Item of,	REF				Node	
545	06	01	01	05	00	00	00	00	Metadata to Object	The relationship between metadata and an object	REF				Node	
546	06	02	00	00	00	00	00	00	Related To Production Material	Related production material	REF				Node	
547	06	02	01	01	00	00	00	00	Relation To Support Material	eg printed educational material	REF	ISO 7-bit char string	127 bytes max		Leaf	
548	06	02	01	02	00	00	00	00	Relation To Advertising Material	eg printed advertising material	REF	ISO 7-bit char string	127 bytes max		Leaf	
549	06	02	01	03	00	00	00	00	Relation To Commercial Material	eg Mag, Y-advs, recordings	REF	ISO 7-bit char string	127 bytes max		Leaf	
570	06	03	00	00	00	00	00	00	Information About Numerical Sequence	Information about numerical sequences	REF				Node	
571	06	03	01	00	00	00	00	00	Numerical Sequence	1, 2, 3 etc	REF	Unicode	1 bytes		Leaf	
572	06	03	03	00	00	00	00	00	Offset Information	Numerical offset	REF	Unicode	1 bytes		Leaf	
573	06	03	03	00	00	00	00	00	Previous, Next Information	previous, next etc	REF				Type Node	
574	06	03	03	01	00	00	00	00	Previous, Next Information	previous, next etc	REF	ISO 7-bit char string	32 bytes max		Leaf	
575	06	04	00	00	00	00	00	00	Relationship structures		REF				Node	
576	06	04	01	00	00	00	00	00	Containing Relations		REF				Node	

FIG.25



**FIG. 26**



Line #	SUPER	Data Element Name				Japanese Names	Data Element Definition	Line #	Type	Value Length	Value Range	Neutral	Defining Document
		01	02	03	04								
625	05	04	02	01	00	00	Property	Specifies the type of property	WeakReference	16 bytes	TypeDefinition	Leaf	W25.52
629	05	04	02	01	00	00	Category	Specifies definition object associated with plugin	WeakReference	16 bytes	DefinitionObject	Leaf	W25.52
630	05	04	02	01	00	00	File Descriptor	Identifies file descriptor associated with code	WeakReference	16 bytes	ClassDefinition	Leaf	W25.52
631	05	04	02	01	00	00	Mod ID	Specifies mod file descriptor associated	WeakReference	16 bytes	Mod	Leaf	W25.52
632	05	04	02	01	00	00	Container Format	Specifies container definition	WeakReference	16 bytes	ContainerDefinition	Leaf	W25.52
633	05	04	02	01	00	00	Parameter Definition	Specifies the Parameter Definition	WeakReference	16 bytes	ParameterDefinition	Leaf	W25.52
634	05	04	02	01	00	00	Type of The Parameter	Specifies the data type of the parameter	WeakReference	16 bytes	TypeDefinition	Leaf	W25.52
635	05	04	02	01	00	00	Interpretation	Specifies interpretation method for use	WeakReference	16 bytes	InterpretationDefinition	Leaf	W25.52
636	05	04	02	01	00	00	Data Type	Specifies the data type of the value	WeakReference	16 bytes	TypeDefinition	Leaf	W25.52
637	05	04	02	01	00	00	Strong Perment of Object	Specifies the class of the referenced object	WeakReference		ClassDefinition	Leaf	W25.52
638	05	04	02	01	00	00	Weak Perment of Object	Specifies the class of the referenced object	WeakReference		ClassDefinition	Leaf	W25.52
639	05	04	02	01	00	00	Underlying Segment Type	Specifies the underlying type	WeakReference		TypeDefinition	Leaf	W25.52
640	05	04	02	01	00	00	Type of Variable Alloy Element	Specifies the type of the array element	WeakReference		TypeDefinition	Leaf	W25.52
641	05	04	02	01	00	00	Type of Fixed Alloy Element	Specifies the type of the array element	WeakReference		TypeDefinition	Leaf	W25.52
642	05	04	02	01	00	00	Specifies The Type of Set	Specifies the type of the set	WeakReference		TypeDefinition	Leaf	W25.52

FIG.27

643	06	04	02	01	17	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
-----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



—

72

676	06	04	04	04	01	00	00	00	00	00	Description	Description	Provides informative description	REF	Unicode String	variable	Leaf	WVS.52
677	06	04	04	04	05	00	00	00	00	00	Container definitions	Container Definitions		REF			Node	
678	06	04	04	04	05	01	00	00	00	00	Essence identifier	Essence Label	Specifies that the container formal identifier essence with SUITE label or other AUD	REF	Unicode	1 byte	Leaf	WVS.52
679	06	04	04	04	05	00	00	00	00	00	Related code objects	Code Objects		REF			Node	
680	04	04	04	05	01	00	00	00	00	00	Relations to plugin code objects	Plugin Code Objects		REF			Node	
681	06	04	04	05	01	01	00	00	00	00	Name	Name	Specifies name of plugin	REF	Unicode String	variable	Leaf	WVS.52
682	06	04	04	05	01	02	00	00	00	00	Plugin Descriptor Identification	Plugin	Specifies SUITE label or GUID identifying plugin	REF	AUD	16 bytes	Leaf	WVS.52
683	06	04	04	05	01	03	00	00	00	00	Description	Description	Provides informative description	REF	Unicode String	variable	Leaf	WVS.52
684	06	04	04	05	01	04	00	00	00	00	Version Number	Version Number	Specifies version number of plugin code	REF	Version type	2 bytes	Leaf	WVS.52
685	06	04	04	05	01	05	00	00	00	00	Version String	Version String	Specifies string version number of plugin code	REF	Unicode String	variable	Leaf	WVS.52
686	06	04	04	05	01	06	00	00	00	00	Manufacturer	Manufacturer	Specifies manufacturer of plugin	REF	Unicode String	variable	Leaf	WVS.52
687	06	04	04	05	01	07	01	00	00	00	Manufacturer ID	Manufacturer ID	Specifies SUITE label or UUID identifying manufacturer	REF	AUD	16 bytes	Leaf	WVS.52
688	06	04	04	05	01	08	04	00	00	00	Platform	Platform	Specifies hardware platform for plugin	REF	AUD	16 bytes	Leaf	WVS.52
689	06	04	04	05	01	09	00	00	00	00	Platform Version	Platform Version	Specifies minimum OS version for plugin	REF	Version type	2 bytes	Leaf	WVS.52
690	06	04	04	05	01	0A	00	00	00	00	Platform/Version	Platform OS Version	Specifies maximum OS version for plugin	REF	Version type	2 bytes	Leaf	WVS.52
691	06	04	04	05	01	0B	06	00	00	00	Engine	Plugin Engine	Specifies plugin engine	REF	AUD	16 bytes	Leaf	WVS.52
692	06	04	04	05	01	0C	00	00	00	00	MaxEngineVersion	MaxEngine Version	Specifies minimum plugin engine version	REF	Version type	2 bytes	Leaf	WVS.52
693	06	04	04	05	01	0D	00	00	00	00	MaxEngineVersion	MaxEngine Version	Specifies maximum plugin engine version	REF	Version type	2 bytes	Leaf	WVS.52

SUITE label	Data Element Name										Japanese Names	Data Element Definition	Type	Value Length	Value Range	Model/Label	Defining Document
	01	02	03	04	05	06	07	08	09	10							
694	01	04	05	01	0E	09	00	00	00	00	Plugin API	Specifies plugin API	REF	16 bytes		Leaf	W25.52
695	04	05	04	05	0F	08	00	00	00	00	MaxPlugin API	Specifies maximum API version	REF	2 bytes		Leaf	W25.52
696	04	05	04	05	10	00	00	00	00	00	MaxPlugin API	Specifies maximum API version	REF	2 bytes		Leaf	W25.52
697	04	05	04	05	11	00	00	00	00	00	Software	Specifies plugin can function without specialized hardware	REF	1 byte		Leaf	W25.52
698	04	05	04	05	12	00	00	00	00	00	Accelerator	Specifies plugin is optimized for specialized hardware	REF	1 byte		Leaf	W25.52
699	04	05	04	05	13	00	00	00	00	00	Authentication	Specifies whether the plugin uses authentication	REF	1 byte		Leaf	W25.52
700	04	05	04	05	02	00	00	00	00	00	Relations To Application Code Objects		REF			Node	
701	04	05	04	05	02	01	00	00	00	00	Company Name	Specifies the name of company supplying the application	REF	variable		Leaf	W25.52
702	04	05	04	05	02	02	00	00	00	00	Product Name	Specifies the application name	REF	variable		Leaf	W25.52
703	04	05	04	05	02	03	00	00	00	00	Product Number	Specifies the SUITE label or GUID identifying the product	REF	10 bytes		Leaf	W25.52
704	04	05	04	05	02	04	00	00	00	00	Product Version	Specifies the application version	REF	10 bytes		Leaf	W25.52
705	04	05	04	05	02	05	00	00	00	00	Product Version String	Specifies a printable product version string	REF	variable		Leaf	W25.52
706	04	05	04	05	02	06	00	00	00	00	Toolkit Version	Specifies version number of toolkit	REF	10 bytes		Leaf	W25.52
707	04	05	04	05	02	07	00	00	00	00	Platform	Specifies hardware and OS platform application runs on	REF	variable		Leaf	W25.52
708	04	05	04	05	02	08	00	00	00	00	Class / Space and Time	Class / is reserved for information about space and time	REF			Node	

FIG.29

709	07	04	00	00	00	00	00	00	00	00	Position and Space Vectors	Position and Space Vectors	Information about position in space and associated vectors (if any)	REF			Node
710	07	01	01	00	00	00	00	00	00	00	Image Coordinate System	Image Coordinate System	Indicates the georeferenced coordinate system for the image.	REF	ISO 14184a	4 bytes decimal	Leaf
711	07	01	02	00	00	00	00	00	00	00	Map Datum Used	Map Datum Used	Identifies the map datum used to derive the coordinates (UTM or GED).	REF	ISO 14184a	4 bytes decimal	Leaf
712	07	01	05	00	00	00	00	00	00	00	Absolute Position	Absolute Position	Absolute positional information	REF			Node
713	07	01	05	01	00	00	00	00	00	00	Local Reference Absolute Position	Local Reference Position	The absolute position of a local datum	REF			Node
714	07	01	05	01	01	00	00	00	00	00	Local Datum Absolute Position Accuracy (m)	Local Reference Positional Accuracy	The accuracy with which the measurement of the absolute position of the local datum is made	REF	Floating Point	4 bytes	Leaf
715	07	01	05	02	00	00	00	00	00	00	Device Absolute Position	Device Absolute Position	The absolute position of the sensor-exposing device	REF			Node
716	07	01	05	02	01	00	00	00	00	00	Device Absolute Positional Accuracy (m)	Device Absolute Positional Information	Accuracy of frame center coordinates as a Circular Error Probable (CEP) (m).	REF	Floating Point	4 bytes	Leaf
717	07	01	05	02	00	00	00	00	00	00	Device Altitude	Device Altitude	Altitude of sensor as measured from Mean Sea Level (MSL)	REF	Floating Point	4 bytes	Leaf
718	07	01	05	02	00	00	00	00	00	00	Device Altitude	Device Altitude	As above	REF	Binary	4 bytes	Leaf
719	07	01	05	02	04	00	00	00	00	00	Device Latitude (degrees)	Device Latitude	Specifies a sensor's geographic location in degrees of latitude. Positive values indicate northern hemisphere; negative values indicate southern hemisphere.	REF	Floating Point	4 bytes	Leaf
720	07	01	05	02	05	00	00	00	00	00	Device Latitude (degrees, centesimal)	Device Latitude	As above	REF	Binary	4 bytes	Leaf
721	07	01	05	02	06	00	00	00	00	00	Device Longitude (degrees)	Device Longitude	Specifies a sensor's geographic location in degrees of longitude. Positive values indicate eastern hemisphere; negative values indicate western hemisphere.	REF	Floating Point	4 bytes	Leaf
722	07	01	05	02	07	00	00	00	00	00	Device Longitude (degrees, centesimal)	Device Longitude	As above	REF	Binary	4 bytes	Leaf
723	07	01	05	02	10	00	00	00	00	00	Device X Dimension (m)	Device X Dimension	Specifies the sensor location along the X-axis in Earth-Centered, Earth-Fixed (ECEF) Cartesian coordinates.	REF	Binary	4 bytes	Leaf
724	07	01	05	02	11	00	00	00	00	00	Device Y Dimension (m)	Device Y Dimension	Specifies the sensor location along the Y-axis in Earth-Centered, Earth-Fixed (ECEF) Cartesian coordinates.	REF	Floating Point	4 bytes	Leaf
725	07	01	05	03	00	00	00	00	00	00	Subject Absolute Position	Subject Absolute Position	The absolute position of the subject depicted in the essence	REF			Node
726	07	01	05	03	01	00	00	00	00	00	Frame Positional Accuracy (m)	Frame Positional Accuracy	Accuracy of frame center coordinates as a Circular Error Probable (CEP) (m).	REF	Floating Point	4 bytes	Leaf

Line	SIPTTE Label	Data Element Name	Japanese Name	Data Element Definition	Unit	Type	Value Length	Value Range	Model Label	Officing Document
727	07 01 05 03 02 00 00	Frame Center Latitude (degrees)	Frame Center Latitude	Specifies the video frame center point geographic location in degrees of latitude. Positive values indicate north hemisphere, negative values indicate south hemisphere.	REF	Reading Point	4 bytes		Leaf	
728	07 01 05 03 03 00 00	Frame Center Latitude (degrees, centes)	Frame Center Latitude	As above	REF	Binary	4 bytes	As per SIPTTE 5314 (UNIT)	Leaf	
729	07 01 05 03 04 00 00	Frame Center Longitude (degrees)	Frame Center Longitude	Specifies the video frame center point geographic location in degrees of longitude. Positive values indicate eastern hemisphere, negative values indicate western hemisphere.	REF	Reading Point	4 bytes		Leaf	
730	07 01 05 03 05 00 00	Frame Center Longitude (degrees, centes)	Frame Center Longitude	As above	REF	Binary	4 bytes	As per SIPTTE 5314 (UNIT)	Leaf	
731	07 01 05 03 06 00 00	Frame Center Lat/Long	Frame Center Lat/Long	Specifies a video frame center point geographic location latitude and longitude.	REF	ISO 7819 order	14 bytes	Format is domain address, where '00' is degrees latitude, '00' is	Leaf	
732	07 01 06 00 00 00 00	Relative Position	Relative Position	Relative positional information	REF				Node	
733	07 01 06 01 00 00 00	Local Datum Relative Position	Local Datum Relative Position	The relative position of a local datum to another specified datum	REF				Node	
734	07 01 06 01 01 00 00	Local Datum Relative Position Accuracy	Local Datum Relative Position Accuracy	The accuracy with which the measurement of relative position of the local datum is made	REF	Reading Point	4 bytes		Leaf	
735	07 01 06 02 00 00 00	Device Relative Position	Device Relative Position	The absolute position of the camera-capturing device	REF				Node	
736	07 01 06 02 01 00 00	Device Relative Position Accuracy	Device Relative Position Accuracy	Accuracy of frame center coordinates	REF	Reading Point	4 bytes		Leaf	
737	07 01 06 02 02 00 00	Device Relative Position X (meters)	Device Relative Position X	Position of the X relative position of the camera from a local datum. Positive values indicate the camera has physically moved from left to right.	REF	Reading Point	4 bytes		Leaf	
738	07 01 06 02 03 00 00	Device Relative Position Y (meters)	Device Relative Position Y	Position of the Y relative position of the camera from a local datum. Positive values indicate the camera has physically moved from a higher elevation to a lower elevation.	REF	Reading Point	4 bytes		Leaf	
739	07 01 06 02 04 00 00	Device Relative Position Z (meters)	Device Relative Position Z	Position of the Z relative position of the camera from a local datum. Positive values indicate the camera has physically moved towards the subject.	REF	Reading Point	4 bytes		Leaf	
740	07 01 06 03 00 00 00	Subject Relative Position	Subject Relative Position	The position of the subject depicted in the scene relative to another specified datum	REF				Node	
741	07 01 06 03 01 00 00	Subject Relative Position Accuracy (meters)	Subject Relative Position Accuracy	The accuracy with which the measurement of relative position of the subject is made	REF	Reading Point	4 bytes		Leaf	

FIG.30

XCID: <FP

Line No.	Supplement	Data Element Name	Japanese Name	Data Element Definition	Unit	Type	Value Length	Value Range	Node/Leaf	Defining Document
760	07 01 10 02 01 02 00	Subject Absolute Heading (degrees)	Subject Absolute Heading	Defined by the absolute heading of the subject	REF	Heading Point	4 bytes		Type Node	
761	07 01 10 02 02 00 00	Relative Subject Rate and Direction of Positional Change	Relative Subject Rate and Direction of Positional Change	Relative information about rate and direction of positional change of the subject depicted in the captured essence	REF				Node	
762	07 01 10 02 02 01 00	Subject Relative Speed (m/sec)	Subject Relative Speed	Defined by the relative velocity of the subject along the heading	REF	Heading Point	4 bytes		Type Node	
763	07 01 10 02 02 02 00	Subject Relative Heading (degrees)	Subject Relative Heading	Defined by the relative heading of the subject	REF	Heading Point	4 bytes		Type Node	
764	07 01 11 00 00 00 00	Angular Specifications	Angular Specifications	Information regarding angles related to positioning information	REF				Node	
765	07 01 11 01 00 00 00	Device Angles	Device Angles	Device information regarding angles related to positioning information	REF				Node	
766	07 01 11 01 01 00 00	Sensor Roll Angle (degrees)	Sensor Roll Angle	Specifies the roll angle of the sensor. Expressed in degrees.	REF	Heading point	4 bytes		Leaf	
767	07 01 11 01 02 00 00	Angle to North (degrees)	Angle To North	Angle in degrees from the East line of the image to the north.	REF	Heading point	4 bytes		Leaf	
768	07 01 11 01 03 00 00	Obliquity Angle (degrees)	Obliquity Angle	Obliquity angle of image expressed in degrees. The planes of sensor depression angle.	REF	Heading point	4 bytes		Leaf	
769	07 01 12 00 00 00 00	Subject Angles (degrees)	Subject Angles	Angles relating to the subject depicted in the captured essence	REF	Heading point	4 bytes		Leaf	
770	07 01 15 00 00 00 00	Distance measurements	Distance Measurements	Length measurements relating to distance	REF				Node	
771	07 01 15 01 00 00 00	Device to Subject Distance	Device To Subject Distance From device	Length measurements relating to distance between capturing device and the subject depicted in the captured essence	REF				Node	
772	07 01 15 01 01 00 00	Angle To Subject	Angle To Subject	Distance from the sensor to the center point on ground of the target subject (projected) depicted in the captured essence.	REF	Heading point	4 bytes		Type Node	
773	07 01 17 00 00 00 00	Dimensions	Distance	Length measurements relating to size	REF				Node	
774	07 01 17 01 00 00 00	Subject Dimensions	Subject Dimensions	Length measurements relating to the size of the subject depicted in the captured essence	REF				Node	

FIG.31





L	S	SUPPLEMENT				Data Element Name	Japanese Names	Data Element Definition	Unit	Type	Value Length	Value Range	Model/Legal	Defining Document
		01	02	03	04									
793	07	01	20	01	04	00	Regions	Information about Regions within a country	REFER				Note	
794	07	01	20	01	04	01	Region of Origin	Region in a country where object is depicted	REFER	ISO 7-bit char string	32 bytes max		Leaf	
795	07	01	20	01	04	02	Region of Shot	Region within a country where shooting took place	REFER	ISO 7-bit char string	32 bytes max		Leaf	
796	07	01	20	01	04	03	Region of Selling Characterised Place	The region of the country where the depicted action is set in the production	REFER	ISO 7-bit char string	32 bytes max		Leaf	
797	07	01	20	01	04	04	Region or area of Copyright License	The region of a country where copyright is licensed	REFER	ISO 7-bit char string	32 bytes max		Leaf	
798	07	01	20	01	04	05	Region or area of P License	The region of a country where P rights are licensed	REFER	ISO 7-bit char string	32 bytes max		Leaf	
799	07	01	20	01	05	00	Postal Address	Information about Postal Addresses	REFER				Note	
800	07	01	20	01	05	01	Room Number	The room number of an address	REFER	ISO 7-bit char string	32 bytes max		Leaf	
801	07	01	20	01	05	02	Street Number or Building name	An address line for the address	REFER	ISO 7-bit char string	32 bytes max		Leaf	
802	07	01	20	01	05	03	Street	An address line for the address	REFER	ISO 7-bit char string	32 bytes max		Leaf	
803	07	01	20	01	05	04	Postal Town	An address line for the address	REFER	ISO 7-bit char string	32 bytes max		Leaf	
804	07	01	20	01	05	05	City	The city of the address	REFER	ISO 7-bit char string	32 bytes max		Leaf	
805	07	01	20	01	05	06	State or Province or County	The state, province or county of the address	REFER	ISO 7-bit char string	32 bytes max		Leaf	
806	07	01	20	01	05	07	Postal Code	The ZIP or other postal code of the address	REFER	ISO 7-bit char string	32 bytes max		Leaf	
807	07	01	20	01	05	08	Country	The country of the address	REFER	ISO 7-bit char string	32 bytes max		Leaf	

FIG.32

801	07	01	20	01	05	00	00	00	00	Postal Addresses Depicted In The Setting of a Production	Information about postal addresses depicted in the setting of a production	REF			Node
809	07	01	20	01	05	01	00			Setting Room Number	The room number of a depicted address	REF	ISO 741 char string	32 bytes max	Leaf
810	07	01	20	01	05	02	00			Setting Street Number or Building Name	An address line for the depicted address	REF	ISO 741 char string	32 bytes max	Leaf
811	07	01	20	01	05	03	00			Setting Street	An address line for the depicted address	REF	ISO 741 char string	32 bytes max	Leaf
812	07	01	20	01	05	04	00			Setting Town	An address line for the depicted address	REF	ISO 741 char string	32 bytes max	Leaf
813	07	01	20	01	05	05	00			Setting City	The city of the depicted address	REF	ISO 741 char string	32 bytes max	Leaf
814	07	01	20	01	05	06	00			Setting State or Province	The state, province or county of the depicted address	REF	ISO 741 char string	32 bytes max	Leaf
815	07	01	20	01	06	07	00			Setting Postal Code	The ZIP or other postal code of the depicted address	REF	ISO 741 char string	32 bytes max	Leaf
816	07	01	20	01	06	08	00			Setting Country	The country of the depicted address	REF	ISO 741 char string	32 bytes max	Leaf
817	07	01	20	01	06	09	00			Setting Description	eg. "A clearing in a wood" or "Fiddler's living room"	REF			Type Node
818	07	01	20	01	06	10	00			Setting Description	eg. "A clearing in a wood" or "Fiddler's living room"	REF	ISO 741 char string	127 bytes max	Leaf
819	07	01	20	01	10	00	00			Electronic Address	Information about electronic addresses	REF			Node
820	07	01	20	01	10	01	00			Telephone Number	Telephone number	REF	ISO 741 char string	32 bytes max	Leaf
821	07	01	20	01	10	02	00			Fax Number	Fax number	REF	ISO 741 char string	32 bytes max	Leaf
822	07	01	20	01	10	03	00			E-Mail Address	E-mail address	REF	ISO 741 char string	32 bytes max	Leaf
823												REF	ISO 741 char string	32 bytes max	Leaf
824	07	02	00	00	00	00	00			Date and Time	Information about dates and times	REF			Node
825	07	02	01	00	00	00	00			Material Date and Time	Information about dates and times relating to objects/material	REF			Node

82

841	07	02	01	03	00	00	00	00	00	00	Segment Start Date and Time	Media time at the start of a segment within a shot or clip	REF	ULSF	8 bytes	Bitwise mapping of 64-bit timecode into 8 bytes, 16-bit	Leaf
842	07	02	01	03	04	00	00	00	00	00	Segment End Date and Time	Media time at the end of a segment within a shot or clip	REF	ULSF	8 bytes	Bitwise mapping of 64-bit timecode into 8 bytes, 16-bit	Leaf
843	07	02	02	00	00	00	00	00	00	00	Time Durations	Information about time durations relating to captured material	REF				Node
844	07	02	02	01	00	00	00	00	00	00	Absolute Time Durations	Absolute time duration information	REF				Node
845	07	02	02	01	01	00	00	00	00	00	Time Duration	Length of the content in time units	REF	ULSF	4 bytes	Bitwise mapping of 64-bit timecode into 8 bytes, 16-bit	Leaf
846	07	02	02	01	02	00	00	00	00	00	Segment Duration	Duration of a segment within a shot or clip in time units	REF	ULSF	4 bytes	Bitwise mapping of 64-bit timecode into 8 bytes, 16-bit	Leaf
847	07	02	02	01	03	00	00	00	00	00	Frame Count	Length of the content in film frames	REF	ULSF	4 bytes	Bitwise mapping of 64-bit timecode into 8 bytes, 16-bit	Leaf
848	07	02	02	01	04	00	00	00	00	00	Segment Frame Count	Duration of a segment within a shot or clip in film frames	REF	ULSF	4 bytes	Bitwise mapping of 64-bit timecode into 8 bytes, 16-bit	Leaf
849	07	02	02	01	05	00	00	00	00	00	Textless Black Duration	eg. 1 minutes after end of programme	REF	ULSF	4 bytes	Bitwise mapping of 64-bit timecode into 8 bytes, 16-bit	Leaf
850	07	02	02	02	00	00	00	00	00	00	Relative Durations	Relative time duration information	REF				Node
851	07	02	02	02	01	00	00	00	00	00	Time Duration	Relative length of the content in time units	REF	ULSF	4 bytes		Leaf
852	07	02	02	02	02	00	00	00	00	00	Segment Duration	Duration of a segment within a shot or clip in time units	REF	ULSF	4 bytes		Leaf
853	07	02	02	02	03	00	00	00	00	00	Film Frame Interval	Length of the content in film frames	REF	ULSF	4 bytes		Leaf
854	07	02	02	02	04	00	00	00	00	00	Segment Frame Count	Duration of a segment within a shot or clip in film frames	REF	ULSF	4 bytes		Leaf
855	07	02	03	00	00	00	00	00	00	00	Rights Date and Time	Dates and Times relating to Copyright and Intellectual Property Rights	REF				Node
856	07	02	03	01	00	00	00	00	00	00	Copyright Date and Time	Dates and Times relating to Copyright	REF				Node
857	07	02	03	02	00	00	00	00	00	00	IP Rights Date and Times	Dates and Times relating to Intellectual Property Rights	REF				Node
858	07	02	03	02	01	00	00	00	00	00	License start date and time	License start date and time	REF	ULSF	6 bytes	Bitwise mapping of 64-bit timecode into 8 bytes, 16-bit	Leaf

Code	Subtype label	Japanese Names	Data Element Name	Data Element Definition	Type	Value Length	Value Range	Model Label	Defining Document
859	07 02 03 02 01 00 00	Option Start Date and Time	Option start date and time	Option start date and time	REF	8 bytes	Binary mapping of 64-bit timestamps into 8 bytes, lsb first	Leaf	
860	07 02 03 02 02 00 00	License End Date and Time	License end date and time	License end date and time	REF	8 bytes	Binary mapping of 64-bit timestamps into 8 bytes, lsb first	Leaf	
861	07 02 03 02 02 00 00	Option End Date and Time	Option end date and time	Option end date and time	REF	8 bytes	Binary mapping of 64-bit timestamps into 8 bytes, lsb first	Leaf	
862	07 02 04 00 00 00 00	Rights Durations	Rights durations	Information about the duration of a copyright or intellectual property license	REF			Node	
863	07 02 04 01 00 00 00	Copyright Durations	Copyright durations	Information about the duration of a copyright license	REF			Node	
864	07 02 04 02 00 00 00	IP Rights Durations	IP Rights durations	Information about the duration of an intellectual property license	REF			Node	
865	07 02 04 02 01 00 00	License Duration	License duration	Information about the duration of a license	REF	8 bytes	Binary mapping of 64-bit timestamps into 8 bytes, lsb first	Leaf	
866	07 02 04 02 02 00 00	Option Duration	Option duration	Information about the duration of a license	REF	8 bytes	Binary mapping of 64-bit timestamps into 8 bytes, lsb first	Leaf	
867	07 02 05 00 00 00 00	Cataloguing Date and Time	Cataloguing date and time	Information about cataloguing and indexing	REF			Node	
868	07 02 05 01 00 00 00	Creation Date and Time	Creation date and time	The creation date and time of the data set	REF	8 bytes	Binary mapping of 64-bit timestamps into 8 bytes, lsb first	Leaf	
869	07 02 05 02 00 00 00	Last Modified	Last modified	Date and time of last modification	REF	8 bytes	Binary mapping of 64-bit timestamps into 8 bytes, lsb first	Leaf	
870	07 02 06 00 00 00 00	Event Date and Time	Event date and time	Date and time information relating to events	REF			Node	
871	07 02 06 01 00 00 00	Absolute Event Date and Time	Absolute date and time	Absolute Date and Time information relating to events	REF			Node	
872	07 02 06 01 01 00 00	Absolute Event Start Times	Absolute start times	Absolute Date and Time information relating to the start of events	REF			Node	
873	07 02 06 01 01 01 00	Project Mission Start Date and Time	Project mission start date and time	The absolute beginning date and time of the period of mission	REF	8 bytes	Binary mapping of 64-bit timestamps into 8 bytes, lsb first	Leaf	

FIG.34

874	07	02	02	01	01	02	00	00	Scene Start Date and Time	The absolute beginning date and time of the scene, or shot	REF	ULSOF	8 bytes	Reverse mapping of 64-bit timestamp into 8 bytes, lsb first	Leaf
875	07	02	06	01	01	03	00	00	Shot Start Date and Time	The absolute beginning date and time of the shot	REF	ULSOF	8 bytes	Reverse mapping of 64-bit timestamp into 8 bytes, lsb first	Leaf
876	07	02	06	01	01	10	00	00	Broadcast Start Date and Time	Absolute start date and time of a specific broadcast	REF	ULSOF	8 bytes	Reverse mapping of 64-bit timestamp into 8 bytes, lsb first	Leaf
877	07	02	06	01	02	00	00	00	Absolute End Times	Absolute Date and Time information relating to the end of events	REF				Node
878	07	02	06	01	02	01	00	00	Project End Date and Time	The absolute ending date and time of the project or mission	REF	ULSOF	8 bytes	Reverse mapping of 64-bit timestamp into 8 bytes, lsb first	Leaf
879	07	02	06	01	02	02	00	00	Scene End Date and Time	The absolute ending date and time of the scene, or shot	REF	ULSOF	8 bytes	Reverse mapping of 64-bit timestamp into 8 bytes, lsb first	Leaf
880	07	02	06	01	02	03	00	00	Shot End Date and Time	The absolute ending date and time of the shot	REF	ULSOF	8 bytes	Reverse mapping of 64-bit timestamp into 8 bytes, lsb first	Leaf
881	07	02	06	01	02	10	00	00	Broadcast End Date and Time	Absolute end date and time of a specific broadcast	REF	ULSOF	8 bytes	Reverse mapping of 64-bit timestamp into 8 bytes, lsb first	Leaf
882	07	02	06	02	00	00	00	00	Relative Date and Time	Relative Date and Time information relating to events, eg. Two days and five hours after	REF				Node
883	07	02	06	02	01	00	00	00	Relative Event Start Times	Relative Date and Time information relating to the start of events	REF				Node
884	07	02	06	02	01	01	00	00	Project Mission Start Date and Time	The relative beginning date and time of the project or mission	REF	ULSOF	8 bytes	Reverse mapping of 64-bit timestamp into 8 bytes, lsb first	Leaf
885	07	02	06	02	01	02	00	00	Scene Start Date and Time	The relative beginning date and time of the scene, or shot	REF	ULSOF	8 bytes	Reverse mapping of 64-bit timestamp into 8 bytes, lsb first	Leaf
886	07	02	06	02	01	03	00	00	Shot Start Date and Time	The relative beginning date and time of the shot	REF	ULSOF	8 bytes	Reverse mapping of 64-bit timestamp into 8 bytes, lsb first	Leaf
887	07	02	06	02	01	10	00	00	Broadcast Start Date and Time	Relative start time of a specific broadcast within a parent programme	REF	ULSOF	8 bytes	Reverse mapping of 64-bit timestamp into 8 bytes, lsb first	Leaf
888	07	02	06	02	02	00	00	00	Relative End Times	Relative Date and Time information relating to the end of events	REF				Node
889	07	02	06	02	02	01	00	00	Project End Date and Time	The relative ending date and time of the project or mission	REF	ULSOF	8 bytes	Reverse mapping of 64-bit timestamp into 8 bytes, lsb first	Leaf
890	07	02	06	02	02	02	00	00	Scene End Date and Time	The relative ending date and time of the scene, or shot	REF	ULSOF	8 bytes	Reverse mapping of 64-bit timestamp into 8 bytes, lsb first	Leaf
891	07	02	06	02	02	03	00	00	Shot End Date and Time	The relative ending date and time of the shot	REF	ULSOF	8 bytes	Reverse mapping of 64-bit timestamp into 8 bytes, lsb first	Leaf

**FIG. 35**

907	07	02	0A	00	00	00	00	00	LastModified	ID of Last Edit Result	Identifies the modification last modified						WZS-32
908	07	02	0A	00	00	00	00	00	CreationTime	Date and Time of Last Production	Identifies time numbers created						WZS-32
909	07	02	0B	00	00	00	00	00	DefaultFootLength	Speech Set Cut Default Standard	Specifies the default length of audio set cuts						WZS-32
910	07	02	0C	00	00	00	00	00	DefaultEditUnit	FadeIn Default Standard	Specifies time units for Default edit length						WZS-32
911	07	02	0D	00	00	00	00	00	EventIndex_Editable	Event Time Unit Standard	Specifies the time units for the set						WZS-32
912	07	02	0E	00	00	00	00	00	TimeInterval_Editable	Slot Time Unit Standard	Specifies the time units for the slot						WZS-32
913	07	02	0F	00	00	00	00	00	ModificationDate	Last Modified Date	Specifies the date the container was modified by application						WZS-32
914	07	02	08	10	00	00	00	00	Origin	Starting Offset for The Slot	Specifies the starting offset for the slot						WZS-32
915	07	02	10	00	00	00	00	00	ProcessDateandTime	Date and Time of Process	Date and Time information relating to Process						WZS-32
916	07	02	10	01	00	00	00	00	TechnicalModificationdateandTime	Date and Time of Technical Modification	The date and time of a purely technical modification, not affecting editorial material						
917	07	02	10	02	00	00	00	00	EditorialModificationdateandTime	Date and Time of an Editorial Modification	The date and time of an editorial modification						
918	07	02	10	03	00	00	00	00	BroadcastDateandTime	Date and Time of a Broadcast	The date and time of a Broadcast						
919	07	02	10	04	00	00	00	00	CancellationDateandTime		Earliest allowed time for cancellation of a specific news or physical copy						
920	07	02	20	00	00	00	00	00	SellingDateandTime(ParametersTimePeriod)	Selling Date and Time	Time period(s) characterized by the date set						
921	07	02	01	00	00	00	00	00	TimeperiodKeywordThesaurus	Keyword Velocity	Reference to a manually updated thesaurus or a similar authoritative source of keyword keywords						
922	07	02	02	00	00	00	00	00	TimeperiodKeyword	Time Period Keyword	The name of a term period covered by a database. E.g. Celebrities						
923	07	02	00	00	00	00	00	00	Delay	Delay	Information about Delay durations						
924	07	02	01	00	00	00	00	00	EncodingDecoding	Encoding/Decoding Information	Information about delay durations in encoding or decoding processes						



**FIG. 36**

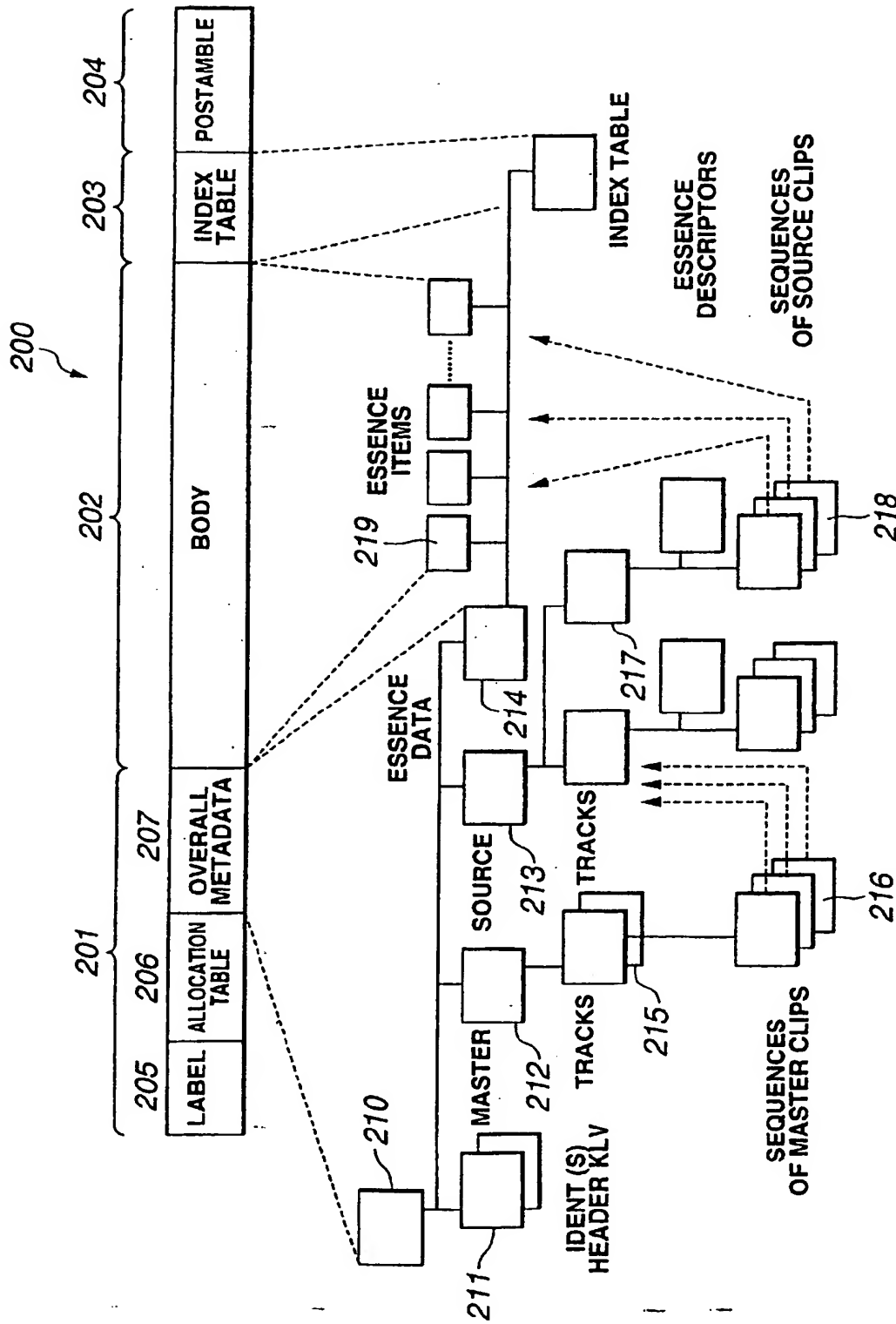


FIG.37

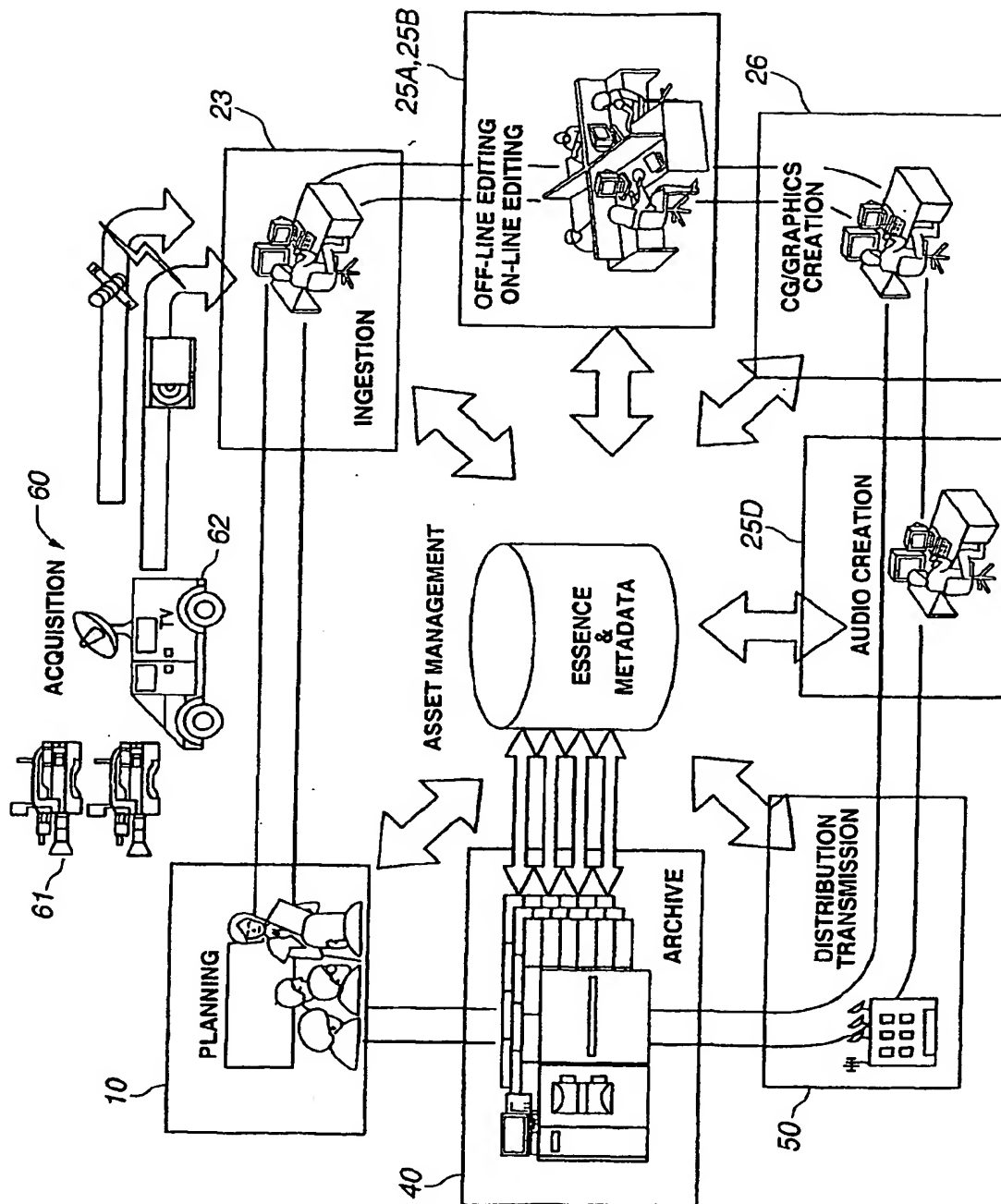
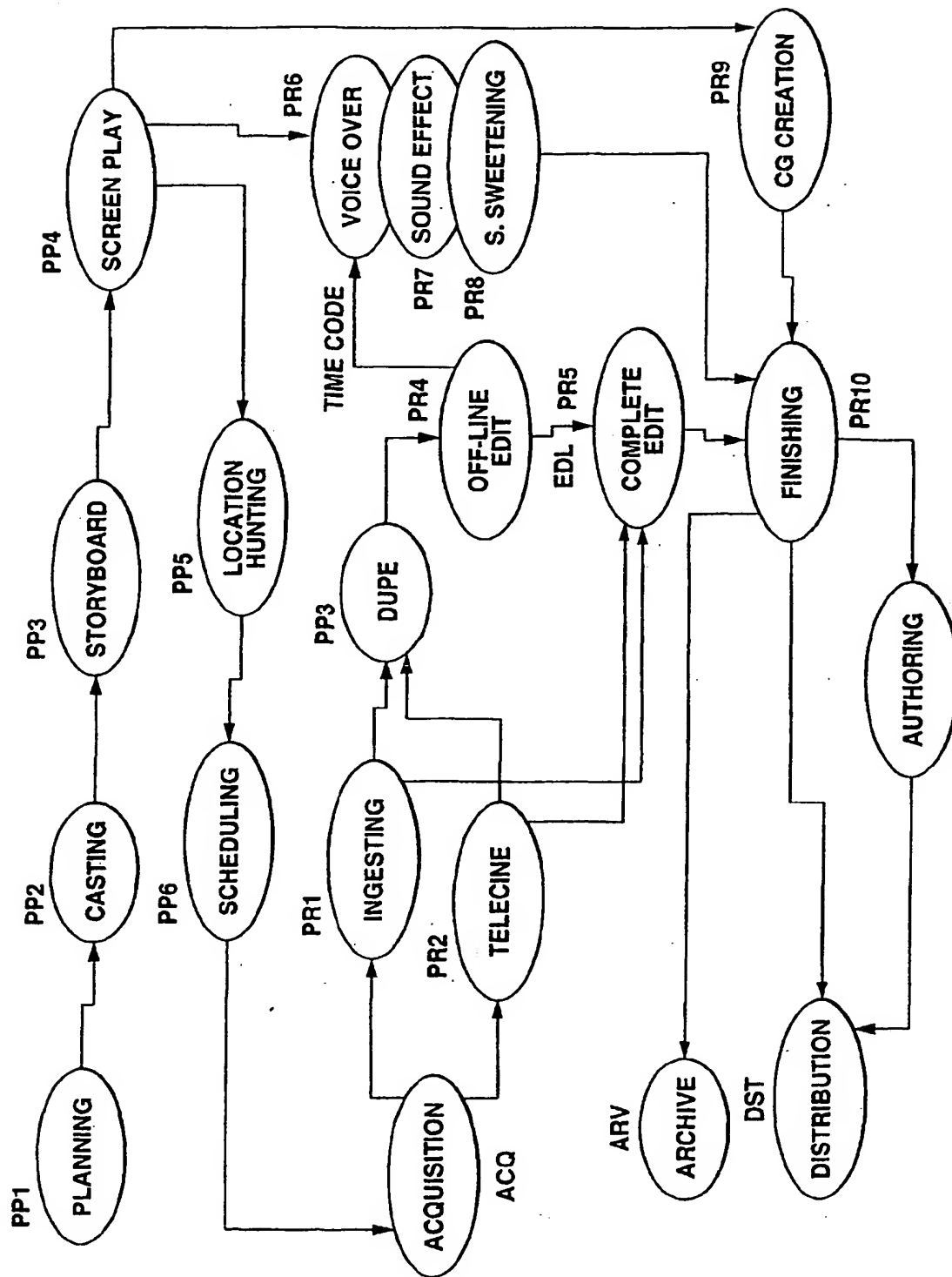


FIG.38



**FIG. 39**

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP01/03100

A. CLASSIFICATION OF SUBJECT MATTER  
Int.Cl.<sup>7</sup> H04N 5/91, 5/92

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
Int.Cl.<sup>7</sup> H04N 5/91-5/956Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
Jitsuyo Shinan Koho 1922-1996 Toroku Jitsuyo Shinan Koho 1994-2001  
Kokai Jitsuyo Shinan Koho 1971-2001 Jitsuyo Shinan Toroku Koho 1996-2001

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
PX	JP, 2000-224257, A (Information Broadcasting Laboratories, Inc.), 11 August, 2000 (11.08.00), & WO, 00/45536, A1 & EP, 1073223, A1	1-32
PX	JP, 2001-502461, A (Avid Technologies, Inc.), 20 February, 2001 (20.02.01), & WO, 97/39411, A1 & EP, 895623, A1 & US, 5852435, A	1-32
PX	JP, 2001-75846, A (Canon Inc.), 23 March, 2001 (23.03.01) (Family: none)	1-32

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

\* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search  
21 June, 2001 (21.06.01)Date of mailing of the international search report  
03 July, 2001 (03.07.01)Name and mailing address of the ISA/  
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

Form PCT/ISA/210 (second sheet) (July 1992)